



DISRUPTIVE
TECHNOLOGIES

CASE STUDY: **SPACE AS A SERVICE**

www.enviosystems.com || www.disruptive-technologies.com

The Joint Creation of Value

Envio Systems and Disruptive Technologies were the chosen service providers in the endeavor to create an iconic and urban progressive experience and destination.

Our client is not offering a space, but “space as a service,” where added value to the customer is of utmost importance. To ensure the success of this endeavor, there needs to be a focus on optimisation of energy, reduction of carbon footprint and labour input, enhancement of the customer experience, and the leverage of the right technology that can achieve these common goals. Furthermore the global pandemic has placed the importance of health & safety at the forefront, making accurate technology a necessity more than ever before.

This case study details the success of the joint Envio Systems & Disruptive Technologies solution implemented at a premium flexible working space London.

Envio Systems, a “software as a service” company, has been selected and challenged to optimise energy, remove redundant tasks, automate alerts, customise operations, monitor in real-time, and provide digestible and insightful analytics and reporting across all existing systems to make buildings better, healthier, and more efficient.

Disruptive Technologies was the chosen sensor provider due to its non-intrusive design & installation, range of unique sensors to provide insights regarding various elements of health and safety, as well its cost-effective approach to accuracy.





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Cost-Efficient Accuracy

Robust Construction

Industrial-Grade Connectivity

Supports IoT Networks

Low Power Consumption

End-To-End Security



envio Systems

Plug and Play Technology

Remote Monitoring & Control

Automation

Fault Detection & Diagnostics

Demand Management

Third Party Integration

The “Space As A Service” Solution

The building is a multi-functional flexible working space, requiring a solution that supports comfort and function for various zone types.

Envio Systems' digitalised the existing infrastructure with the Envio TRIA Gateway, a device coordinator and protocol consolidator. The TRIA Gateway enables monitoring and control of existing infrastructure through the Envio cloud-based operating system, EOS. Additionally, the functionality of the co-working space was enhanced with an Envio CUBE, a universal IoT controller, and main meter integration.

Disruptive Technologies provided sensors that would provide data for Legionella reporting, in addition to temperature sensors. The Envio Operating System was the interface for reporting and sensor analytics. Furthermore, the platform can automate operational activities based on data collected by Disruptive Technologies' sensors.

Due to COVID-19, additional services such as tunedowns, reentry guidelines, baseline analyses, energy optimisation strategies, additional reporting types were required and provided by Envio Systems. The timeframe focused on in this case study, where applicable, is from 1 January- 31 May 2020.

Non-Intrusive Installation

The goal of implementation was to digitalise the current infrastructure so that the operations could be monitored, controlled with ease, and for some scenarios automated.

The installation of the CUBE & TRIA is non-disruptive, meaning that wiring is not required, no physical infrastructure changes are required, and the hardware is plug and play, meaning it can be connected in a matter of minutes to an hour to the BMS of existing sites.

Disruptive Technologies sensors is also non-disruptive. The sensors are small and easy to deploy. Furthermore, many can be deployed to increase accuracy while maintaining cost-efficiency.

There is no need to “rip and replace” legacy systems to turn them into “smart equipment.”

-Disruptive Technologies

Methodology To Develop An Enhanced Destination

The approach of enhancing the premium flexible workspace was broken down into three focuses, which were addressed via hardware, software, and service.

Focus One: Foundational Structure

The implementation described above was to enhance the foundational structure and prepare the buildings to become smart and healthy buildings. The first step in maximising efficiency is ensuring that all the components of the building are connected. This is necessary not only for interoperability, but also to ensure that the monitoring is truly representative of the building operations. Secondly, this is necessary to implement occupancy-based controls, so that the environment is being safely optimised for the tenants.

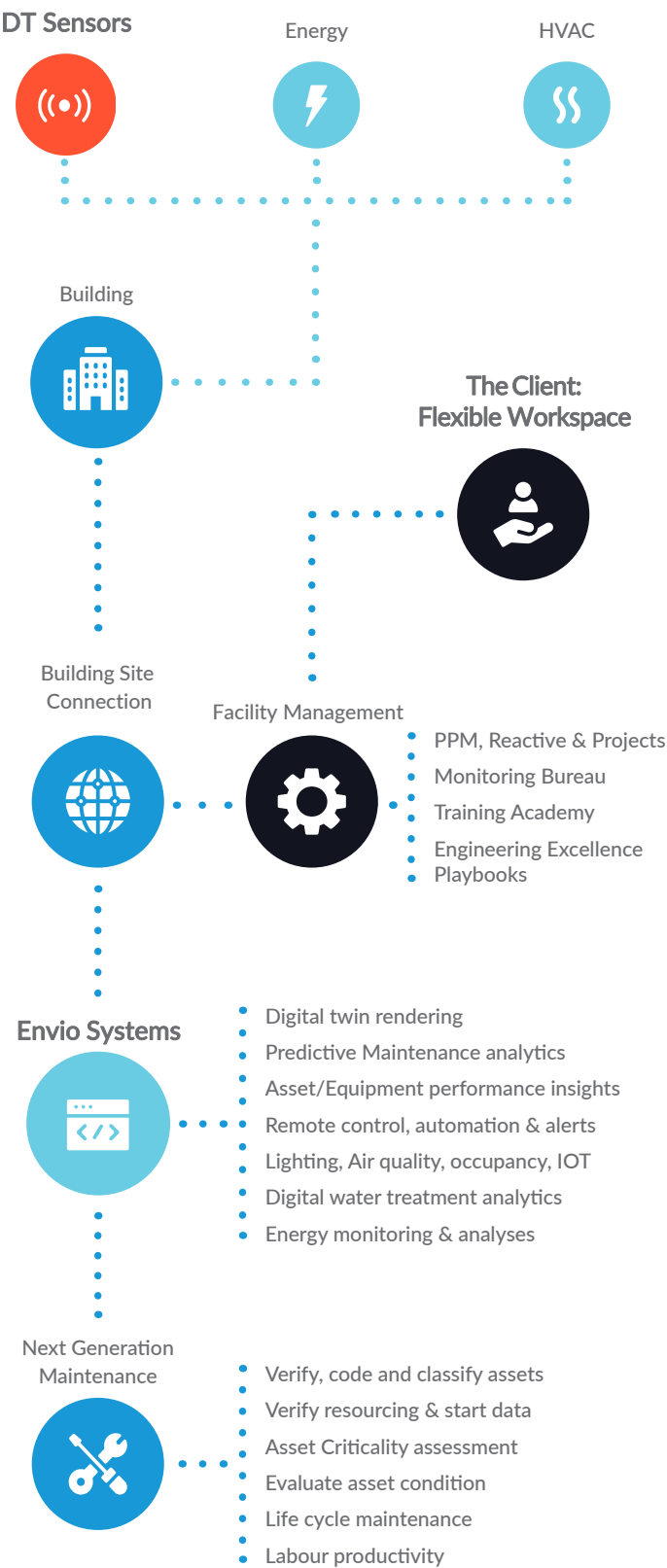
Focus Two: Healthy Environment

With the rise of COVID-19, the importance of air quality and other health factors have equally risen. Envio Systems already tracks comfort factors such as humidity, temperature, and CO2 levels. Their open API allows them to integrate other sensors such as Disruptive Technologies to monitor a variety of health and comfort factors and adjust operations automatically to meet safety standards ASHRAE and even RESET. It has been proven that optimising systems that control the indoor environment can result in a 3% increase in productivity

Focus Three: Responsible Business

By reducing manual labour, redundant tasks, and unnecessary operations, Envio Systems & Disruptive Technologies is helping their client in doing their part in the world to reduce their carbon footprint and energy consumption. To support this progressive business approach, reporting is essential. Analytics and reporting verify optimal operations, enable data-driven decisions, and keep employees engaged and accountable in building management activities and services to the tenants.

An Integrated Approach

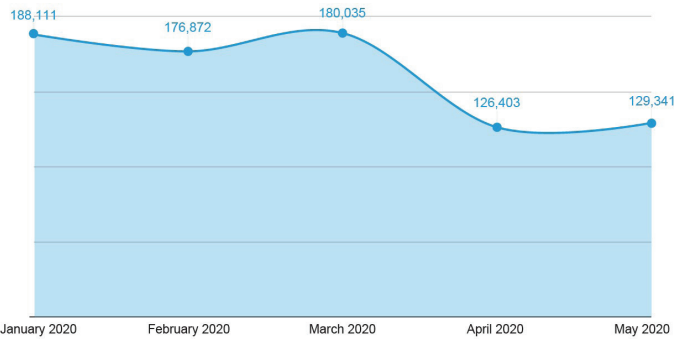


Results

Increased Utility Efficiency

Monthly electricity consumption was reduced by 31.20%.

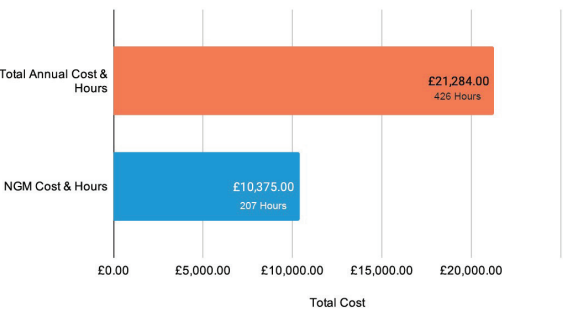
Monthly electricity consumption



Operational Savings

Due to next generation automation, the cost and hours of manual labor were cut by 48.59%.

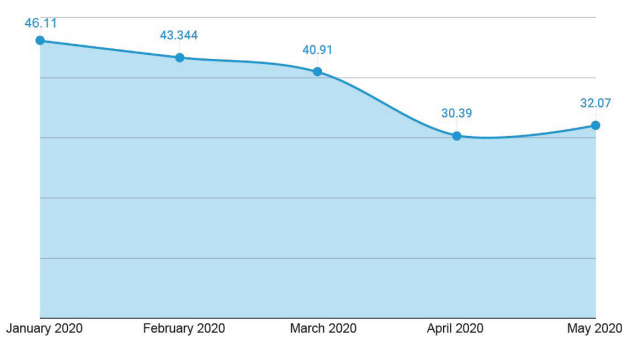
Operational Savings Due To Next Generation Management



Reduced Carbon Footprint

The monthly CO2 emissions were reduced by 30.44%.

Monthly CO2 Emissions (tonnes)



Building Profile: Flexible Workspace

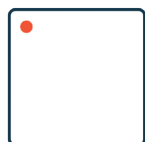
- Location:** London, United Kingdom
- Size:** 2,741 m²
- Space:** 77% occupancy, six floors with rooftop and basement, a variety of flexible work spaces

Project Gains: Envio Systems

- increased overall visibility of sitewide equipment and operations
- addition of online indoor air quality monitoring
- improved monitoring for Legionella Risk management
- discovery of root cause behind excessive energy spend
- gain of accurate metering and monitoring of main energy use in the building
- gained occupancy insights to improve space utilization
- gained reporting and alerts

Disruptive Technologies

- sensor data utilized for reporting & Legionella Risk monitoring
- increased accuracy for temperature monitoring
- small space monitoring
- touch sensors to increase customer service



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Contact Us
www.disruptive-technologies.com/contact-us



Envio Systems
www.enviosystems.com

phone: +49 30 8878 9117
sales@enviosystems.com / support@enviosystems.com