

Siemens Energy Parsons Works

Case Study



Global company saves over
5.6 million kWh each year
with LED retrofit project

1,529
Sensors

96%
Energy
savings

£2M+
One-year
cost savings

IoT lighting solution dramatically cuts energy usage, saves millions, and improves working conditions

Siemens Energy is a global company working in more than 90 countries to deliver innovations to meet growing energy demand while transitioning to a more sustainable world. The company's Parsons Works site, a huge 20,538m² manufacturing facility in Newcastle, UK, produces renewable power generation solutions including gas turbines and cutting-edge hydrogen technologies.

Mark Armstrong, whose career has spanned more than 40 years with Siemens Energy, is the Head of Operations for this site. His broad responsibilities include supporting the company's commitment to be net zero by 2030. Armstrong also initiated an Energy Efficiency Program (EEP) for the Siemens Parsons Works site in 2020 and has seen tremendous results. His team deployed an LED retrofit project, engaging Siemens-owned Enlighted IoT technology to control the lighting.

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The LED upgrade reduced the lighting power by 75%. The Enlighted IoT controls save an additional 88% on top by constantly adjusting light output to provide perfect light levels based on the task at hand, daylight coming in from outside, and occupancy.

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MARK ARMSTRONG
Head of Operations
Siemens Energy

Interesting challenges

This industrial facility operates 24 hours a day, seven days a week and includes both standard offices and large industrial bays with 30-meter ceilings.

A key part of meeting their EEP objectives was to modernize their inefficient discharge lighting system to reduce energy usage. But that was not the only goal. They also wanted a high-quality lighting solution that would improve manufacturing working conditions. Comfortable lighting for office work is quite different from what is needed by engineers working on specialized tasks, like assembling engines.

Choosing smart infrastructure

Lighting was upgraded in all 15 areas of the facility, including offices, training areas, the insulation shop, and



We recently had an ESO Audit where we were recognized for our understanding of energy usage. The auditors were “immensely impressed” by the improvements we have implemented. The Enlighted system is the foundation for our program, enabling us to use live data to understand and reduce our energy usage.



MARK ARMSTRONG

Head of Operations
Siemens Energy

more than 10,000m² of manufacturing bays. Each of the 1,529 fittings is paired with a connected Enlighted sensor equipped with a processor, memory, and upgradeable software. The sensors monitor motion, ambient lighting levels, and temperature, and can be proactively managed. The system measures the actual energy consumption of the installed fittings. This simplified the measurement and verification process that is essential to the delivery of an energy performance certificate (EPC).

Saving energy and creating better workspaces

The Enlighted system’s task-tuning functionality enables the Parsons Works team to fine tune lighting for each space. This improves comfort for occupants both in offices and on the floor.

And, the energy savings have been significant.

- The site saves over **5.6 million kWh each year** from the lighting upgrade
- The new lighting solution is **96% more efficient** than what they had earlier
- At 40p per kWh, energy savings are **over £2M in a single year**

In addition, this upgrade has meaningful environmental impact. Each year, the company avoids sending the equivalent of 1,000+ tons of harmful greenhouse gases into our planet’s atmosphere.

Looking ahead

The Enlighted IoT smart infrastructure was integrated with the Building Management System (BMS) so that occupancy data can be used to manage heating and cooling more efficiently, driving additional energy and cost savings.