



SmarterDM provides intelligent in-bedroom heat management solution for Travelodge

As the largest independent hotel group in the UK, Travelodge have put sustainability at the heart of their building portfolio through their Travelodge Green Programme. They partnered with energy management experts [SmarterDM, part of Glen Dimplex Heating & Ventilation](#), who developed an innovative and intelligent solution for their heating and cooling that has significantly cut carbon and reduced costs, while at the same time improved the customer experience.

Travelodge welcome more than 19 million guests a year, with an estate of nearly 600 hotels and 48,000 bedrooms across the UK, Ireland and Spain. The hotel group runs at around 92% occupancy rate, but with customers usually out of the room during the daytime, energy can often be used unnecessarily. As part of a robust effort to conserve carbon, in 2015 the hotel group worked with SMS PLC to monitor light usage. This led to an innovative LED Lighting and Controls project with the aim of saving 4,000 tonnes of carbon and £2.1 million a year.

However, with heating and cooling representing their dominant energy demand, attention turned to avoiding heat loss in rooms where energy use is 100% manual. They partnered with SmarterDM, who developed a unique, integrated energy system that could monitor and manage heating and cooling in their hotels, knowing that the benefits could be significant. [A study by the European Commission's Joint Research Centre](#) demonstrated that 323MWh per year could be saved in a 100-room hotel from optimising the heating, ventilation and air conditioning (HVAC).

Implementing a trial across ten of its hotels, Travelodge installed the bespoke energy management system developed for them by SmarterDM. [The Dimplex PLXE series Smarter Panel Heaters](#) were fitted in guest bedrooms that incorporated intelligent occupancy sensors to record when bedrooms were in use. These heaters were connected wirelessly via a network to enable monitoring and control of the room temperature, ensuring guests were comfortable when the rooms were occupied, but reducing heat when they were empty.

The trial delivered savings in excess of 40% per hotel on in-bedroom heating costs, leading to the solution being rolled out widely across the Travelodge portfolio, with installation on over 350 sites and 20,000 bedrooms so far.

What are the benefits for Travelodge?

The occupancy sensors make sure that heating and cooling is not used when the room is empty, providing crucial and significant savings both financial and in terms of carbon.

However, the data collected and collated by the intelligent management system also provides an accurate energy profile across the buildings of its estate. The real-time data provided by the system allows for an immediate response to a something like an unexpected rise or fall in outside temperature, while the long-term data provides an accurate model that can be used predicting for future energy use.



How does the intelligent in-bedroom heat management solution work?

The wireless intelligent management system works using networked Smarter Panel Heaters designed by Dimplex and a custom-built SmarterDM network to control and manage the energy used to heat and cool individual bedrooms in real-time. The Dimplex PLXE series panel heaters fit in seamlessly with the hotel room design and provide personalised temperature control for guests, while occupancy sensors enable full monitoring, reporting and scheduling via an online portal. By implementing specific control parameters, such as a temperature range from 10 to 21°C, the system ensures energy efficiency, while also providing the option of a temporary boost to 25°C for guests.

While this combination of intelligent monitoring and guest control is ideal for hotel bedrooms, the system can also be extended to over-door heaters and ventilation systems in communal areas of buildings across Travelodge's estate. Like lighting and in-bedroom heating, these can be monitored and controlled centrally or via the online portal to provide maximum efficiency and guest comfort.

What are the benefits for Travelodge's customers?

What are the benefits for The introduction of the Dimplex Simple Panel Heaters has provided guests with greater control of the temperature of their room, with accuracy within 0.2°C. Guests who want a higher temperature can also use the 15-minute 25°C boost, which can then be used for a further 30 minutes when required.



A smooth rollout with minimum disruption

Because of its high occupancy rates, Travelodge wanted to ensure that the installation of the high-quality heaters could be done without disrupting its customers or operations. The quick installation of less than ten minutes per room was key to a successful rollout, as was the heater design complementing Travelodge's room aesthetic and the non-intrusive installation, with no need for drilling into walls. Wireless monitoring of information is done via a cloud-based hub via a unique ISM (Industrial Scientific and Medical) band LoRa (Long Range) network meshing private radio network, developed by SmarterDM, that ensures the hotel's WiFi infrastructure remains unaffected.

Pete Lister (Director of Risk and Compliance, Travelodge Group LTD) summarises the project:



Travelodge engaged with SmarterDM to deliver a solution to help us control temperatures in our hotel bedrooms and drive energy savings across our estate. The system is easy to use, allows us to create a consistent customer experience across the hotels in which it is installed, has enhanced our sustainability credentials as a business and delivered savings above and beyond what was forecasted. The roll-out programme is now a core part of our strategy moving forwards.



The financial and environmental impact of SmarterDM intelligent control solutions

The innovative SmarterDM solution has provided Travelodge with a 40% saving on the in-bedroom room heating costs across their hotel estate. Both bespoke hardware and software were developed around Travelodge's focused energy strategy and reflected the specific installation and operational requirements. The huge financial benefit of the solutions is matched by significant carbon reductions that make a huge contribution towards the hotel group's sustainability drive.

[SmarterDM, part of Glen Dimplex Heating & Ventilation](#) is able to develop bespoke solutions to match the client goals and strategies, to find out how an intelligent management system could benefit your project, contact us [here](#)

