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ABB technology cuts energy usage of InterContinental Hotel Madrid by 40 percent

A landmark hotel is meeting its environmental goals with ABB drives and high-efficiency motors. Energy usage has been reduced by 445,000 kWh a year – enough to boil two million kettles of water.



IHG (InterContinental Hotels Group) plays an important role in the drive for sustainability, with more than 5,500 hotels across 15 brands in nearly 100 countries around the world. Through the IHG Green Engage system, IHG has reduced its carbon footprint per occupied room by 15% between 2013-2017. A key area of focus in energy reduction is the HVAC systems that can use between 60 to 80 percent of all the energy consumed by a hotel.



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The InterContinental Madrid is an important success in the IHG Green Engage system. Located on the Paseo de la Castellana, the Five-Star hotel has stood as a landmark in Spain's hospitality industry throughout its 65-year history. It welcomes around 100,000 guests a year including presidents, royalty, celebrities and business leaders.

“Through the IHG Green Engage program every hotel has to achieve defined environmental goals. But there can never be any compromise on comfort or convenience for our guests”, explains Esteban Rodriguez, Chief Engineer of the InterContinental Hotel Madrid. A detailed energy survey conducted by Exel Industrial, ABB's official value provider for sales, support, service and engineering in Madrid, revealed that the hotel's energy use was high, particularly in the eight pump groups that serve its HVAC systems and hot water supply for guest rooms, kitchens and other facilities.



Based on these findings, the pumping systems were equipped with 13 ABB ACH550 variable speed drives (VSDs) and 16 electric motors with IE3 energy efficiency classification, and integrated into building management systems. This upgrade provides the overall system with greater stability and higher energy efficiency, as the motor speeds are now adjusted to match the precise demand at any given time.



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ABB's intelligent motion solutions enables energy savings of around 40 percent, helping InterContinental Madrid to not only to meet, but exceed its IHG Green Engage system goals. Over a year that adds up to 445,000 kilowatt hours (kWh), cutting the hotel's annual energy bill by \$37,000 to deliver a projected return on investment in less than two years.



As a result of IHG's Green Engage program, the hotel's carbon footprint has been cut by 253 tons of carbon dioxide (CO₂) a year. If similar energy savings could be replicated at just one in four of the world's estimated 187,000 hotels (according to STR Global), global CO₂ emissions could be reduced by nearly 12 million tons a year – similar to shutting down three coal-fired power plants.

Research published by the International Tourism Partnership (ITP) shows that the hotel industry currently accounts for one percent of all global emissions. This figure will increase as tourism continues to boom, with the total number of hotel rooms worldwide set to grow from 17.5 million to over 25 million by 2050.

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[Drives for HVAC ACH580, 1 to 350 hp](#)



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