

Life
IN
Light

MEGAMAN®

Case Study

Cardiff Castle



Megaman LED's in 2000 year old castle

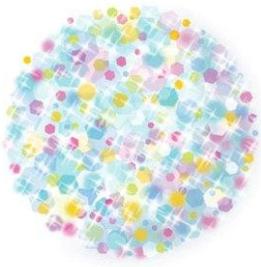
Megaman has supplied a variety of its energy efficient lamps for the refurbishment of the lighting at Cardiff Castle. Megaman was chosen for this gargantuan task by Cardiff Council following assurances that the lighting would maintain the brightness required within the Castle interiors, whilst retaining the aesthetic charm of the building and providing massive energy savings.

Cardiff Castle is one of Wales' leading heritage attractions and a site of international significance. During 2000 years of history, the Castle has been a Roman Garrison, a Norman stronghold and in Victorian times was transformed into a gothic fairytale fantasy. The Castle's on-going conservation project is valued at about £8 million and has been supported by a £5.7 million grant from the Heritage Lottery Fund, whilst additional financial support has been received from CADW and Visit Wales. It is a very diverse project with conservation work ranging from the consolidation of Roman masonry to the repairs of the lavish decoration within the House.



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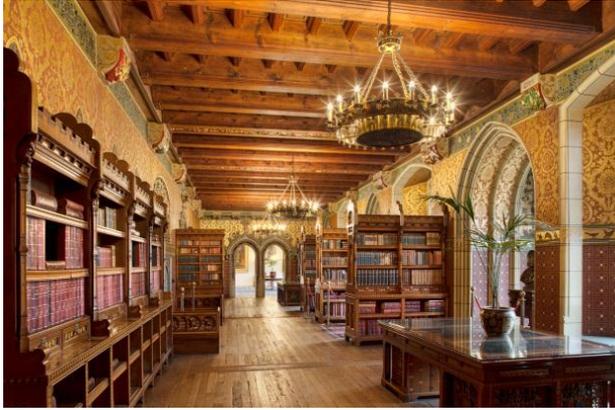


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Picking up the gauntlet to be more energy efficient and sustainable, Castle staff together with the Council's energy management team, came up with a plan to replace all the light bulbs with energy saving compact fluorescent lamps (CFLs) and LEDs. Unlike previous energy saving lamps, the new lamps have been specifically designed to fit in with the wonderful historic interiors and show its architectural features and artworks in the best possible light.

Of the 415 light bulbs in the house alone, 117 are contained within the chandeliers in the Banqueting Hall, making the change over to energy efficient lamps quite a daunting task. Megaman supplied a combination of 5W LED Clear Candle lamps, 8W GU10 LEDs, 15W AR111 LED's, GU10s and 18W CFL GLS lamps for use throughout the project.

The LED lamps are guaranteed to last at least 3 years, offer the added benefits of low heat emission, and negligible ultraviolet and infrared output, which can be harmful to the Castle's delicate interiors. The LED lamps run at 5W each, rather than the 25W filament lamps, and are expected to last around 50 times longer than traditional bulbs.

Annual energy costs have been reduced, with a calculated energy saving of 45.6 tons CO² and this is in addition to the cost reductions in maintenance and downtime. Everyone involved in the project is really impressed with the results at Cardiff Castle – so much so, in fact, that Cardiff Council are considering repeating the exercise with more historic buildings, of which they have quite a few!

Megaman Lamps



5W LED Candle



8W LED GU10



15W LED AR111



18W CFL Classic

Annual energy savings

Annual CO₂ reductions: 45.6 tonnes

Annual energy cost savings: £7,592

Payback time: 1 year and 11 months

For more information on this project or the Megaman lamps used please contact us:

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