

## LEDs Cut Energy Use at Alexa

### Challenge

According to the United Nations Energy Program, buildings consume around 40% of the world's energy and are responsible for around 30% of carbon emissions. In order to cut the costs from running our shopping centres and reduce our carbon footprint, we aim to maximise energy efficiency in our centres through the use of appropriate lighting and low energy appliances. Situated in Berlin, Alexa is one of three shopping centres we own in Germany. Despite implementing environmental features since its inauguration in 2007, the centre's operational electricity consumption remained among the highest in our portfolio in 2012, reaching 637 kWh per m<sup>2</sup>.

### Solution

Following a study into how energy was used at Alexa, we found that a significant amount of energy was being wasted on the lighting system. As a result we decided to upgrade the system by replacing incandescent bulbs with more efficient LEDs and installing motion sensors in the technical areas, so that lights would only be turned on when they were needed. As well as providing energy savings of 50%, LED bulbs also reduce the costs of maintenance as they last longer than incandescent bulbs. All together 79 LED light bulbs were fitted in technical corridors combined with strategically placed motion sensors.

### Results

Representing a total investment of €12,365, the measures have reduced our annual energy consumption at Alexa by 13,900 kWh. This represents a cost saving of around €2,000 a year. Absolute energy consumption for 2013 was down 2% compared to 2012 and energy efficiency also improved by 2% from 637 kWh per m<sup>2</sup> in 2012 to 622 kWh per m<sup>2</sup> in 2013.