

A large cruise ship, the Queen Victoria, is shown from a low angle, sailing on the ocean. The ship is white with a dark blue hull and a red stripe at the bottom. The name "Queen Victoria" is visible on the side. The ship has multiple decks with balconies and a red flag flying from the mast. The sky is clear and blue.

**SIEMENS**

Solutions for Hospitality

# Maritime icon opts for energy-efficient luxury

Optimal energy use for maximum comfort on board the Queen Victoria thanks to centralized HVAC system from Siemens

For the latest addition to its fleet of iconic "Queens", the Queen Victoria ocean liner, Cunard relies on centralized HVAC system from Siemens to ensure optimal comfort and energy use.

## Grandeur and style at sea

The Queen Victoria cruise ship was built by Fincantieri for the British ship owner Cunard Line. Ordered in 2004 and built in the Porto Marghera shipyards, it was launched in November 2007 and had its maiden voyage on December 11<sup>th</sup> 2007. Despite its 90,000 tons, the Queen Victoria can sail through the Panama Canal, being one of the biggest ships that can do so.

Capable of accommodating 2,000 passengers, the ship offers 1,007 cabins carefully designed to offer the guests the best in cabin comfort with dimensions ranging from 16 m<sup>2</sup> to 40 m<sup>2</sup> depending on the class, "Princess" or "Queen". Guests can choose from different cabin types: internal cabins, external cabins with portholes or external cabins with a balcony. 20 of the cabins are also designed to facilitate the needs of people with disabilities.

## British tradition meets modern luxury

Coined one of the "most famous ocean liners in the world," the Queen Victoria is not only a modern cruise ship offering the best of Cunard's tradition and the most sophisticated technology, but it also boasts innovative guest amenities: from the Royal Court Theatre – the first theatre at sea with private boxes – to the unique floating museum displaying the history of Cunard and the library with one of the most impressive collections at sea with over 6,000 titles.

The ship's amenities also include a casino, a shopping area and three swimming pools, one of which is in the indoor fitness and beauty center. All internal areas are decorated in British style. Luxury chandeliers hang in the ballroom while a large winter garden with wooden floors, a central fountain and a glass roof provide a luxurious environment to passengers who can also enjoy their favorite music in the Chart Room.

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### Luxury but not at all costs

Providing guests with a consistent and comfortable environment is vital to delivering a successful cruise experience. But the confined environment of cruise ships poses specific challenges in terms of air circulation, humidity and temperature regulation, as well as energy consumption. From cabins to public areas, maintaining optimal levels of air quality and temperature requires systems that are intelligent enough to adapt to the challenging conditions aboard a cruise ship, whilst optimizing energy use to maximize fuel management. To ensure the best environmental conditions, the HVAC system is controlled and managed by technology from Siemens. The control logic is managed by Desigo™ PX controllers, which, together with the Desigo Insight management station, ensure maximum comfort while optimizing the energy consumption.

The day-to-day running and maintenance of a large cruise ship is time consuming for engineering and maintenance staff. One of the advantages of the Building Management Systems from Siemens is the centralized management of all plant information.

PC workstations in a central control room provide the operator with a single overview of the whole ship, while local user interfaces display environmental conditions, equipment status, alarms and system operation.

The individual air treatment units are controlled by Desigo PX controllers which process the algorithms needed for the automated operation of the systems. The 80 air conditioning units move and handle approximately 1,200,000 m<sup>3</sup>/h of air.

### Partners in energy efficiency

Siemens is an experienced partner in anything cruise ship related, from propulsion systems to on-board communication, energy efficiency and safety and security solutions. Siemens was a partner from the early stages of this project. Its highly skilled technicians took complete responsibility for the implementation of the system, from the engineering to the commissioning, and from the field components to the automation and monitoring elements. Thanks to the Desigo building automation and control system, the resulting installation is highly efficient both from a cost and energy use point of view.

### Highlights

- 10,000 data points managed by Desigo PX controllers
- Centralized HVAC system ensures optimal guest comfort and energy use
- Automated operation of the system through a central supervision system delivers more accurate and quicker setpoint adjustments
- Siemens, a long-standing partner of the cruise ship industry