Case Study

Excellence in KVM and Video

The Crystal – A sustainable cities initiative by Siemens uses Draco compact extenders

The Customer

The Crystal, a stunning building in London's Royal Victoria Dock serves as a development and exhibition site for Siemens' multi-disciplinary team of experts in the Infrastructure and Cities Sector division. This organization focuses on developing sustainable technologies for metropolitan areas and their infrastructures; in designing technologies for the future that reduce energy consumption whilst improving the urban environment for city life and work.

Buildings use 40% of worldwide energy and account for 21% of CO_2 emissions. To safeguard the planet for future generations, scientists believe that it is essential that we consume less power and reduce carbon emissions.

The 21,500-square feet Crystal uses 50% less energy and generates 70% less CO_2 than any other comparable building in the world and at the same time provides a more enjoyable and efficient environment for its occupants.

In addition to profiling Siemens' environmental product portfolio, the Crystal provides an exhibition center to inform visitors about building sustainability and demonstrates how it can be deployed successfully in buildings; guiding visitors through the urban infrastructure of the future by examining the possibilities for sustainable mobility, building technologies, power and water supplies and healthcare.

The Solution

Major objectives of the crystal are the reduction of energy consumption and the recycling of waste heat. Both goals are aided by the use of IHSE's KVM extenders to physically separate the many PC control units from interactive display devices within the exhibition center, placing them in a single location rather than distributing them around the building.

This allows the heat-generating computers to be located together in the second-floor data center where they can be managed more efficiently. Centralized location allows their exhaust energy to be harvested using thermal wheels which heat incoming fresh air using waste heat generated within the building which would otherwise be emitted into the atmosphere. This process recovers 60% of the heat produced and ensures that the Crystal receives no heating bill.

The bank of computers in the data center serves around 100 interactive display locations in the exhibition zones two-floors below. Each computer is connected through a Draco compact extender

using Cat 6 cables over distances of up to 100 meters to an LCD display or DLP projector.

The displays operate at full HD video resolution up to 1920 x 1200 and include high quality analog audio. Bidirectional data transfer allows them to respond instantly to interactive user commands from a variety of devices including touchscreens, push-button GPIO interfaces using full-speed USB 2.0 and USB-HID connectivity.

Visitors to the exhibition are provided with special keys incorporating RFID readers that activate individual exhibits; each one communicating through the KVM extender to its associated source computer.

„The wide range of interactive devices used in the Crystal and the expectation of new devices in the future means that the KVM extenders must adhere fully to the latest USB specifications to ensure full compatibility."

Ray Gordon, managing director of Scene Double, the UK distributor for IHSE products

Reliability played a critical role in selecting the appropriate extenders. „We tested the Draco compact extenders thoroughly in conjunction with Electrosonic, the system integrator, using the full set of proposed interactive devices to ensure that they operate reliably and with no delay; it is very frustrating for the user to experience a lag between touching a device and its response."

IHSE extenders were chosen for their ability to handle the wide range of interactive devices and to achieve the levels of interactivity required. "We need very reliable KVM extenders that are flexible enough to handle several different types of interactive signals in addition to the video and audio that is distributed around the building," said Paul Taylor, Crystal project manager for Electrosonic. "Some of the displays are located in excess of 100 meters from the source computers, which is at the upper end of the distance capability for extenders using Cat 6 cabling, so we had to ensure that the selected devices were able to reach these distances.

„The IHSE Draco compact extenders perform perfectly under all conditions and offer the flexibility in connection that ensures we can manage almost any type of interactive device without any glitches or delay."

Paul Taylor,
Crystal project manager for Electrosonic

Visitors receive a RFID-tagged card allowing them to collect "crystals" for each exhibit they visit

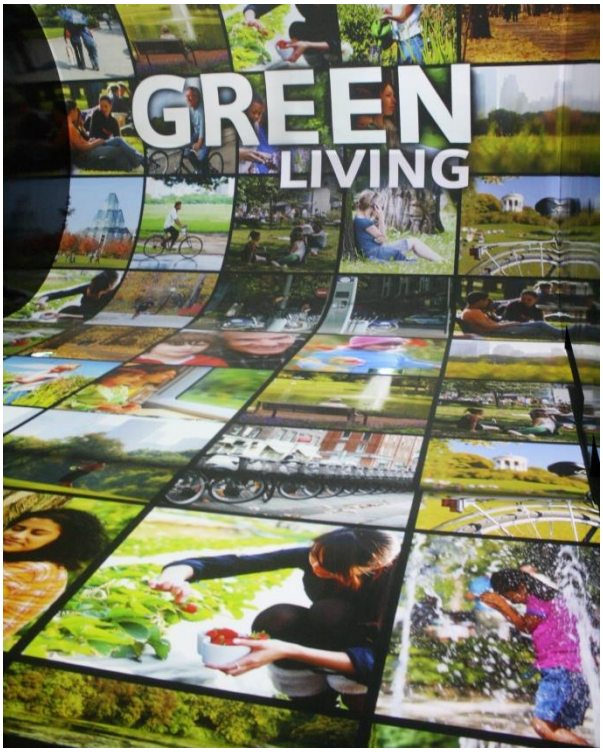
"Enter the City of the Future," shown on a nine-meters curved screen by three DLP projectors with short-throw zoom lenses

Case Study

Interactive touch screens and projection displays demonstrate smart buildings

Highlights of energy supply and demand in the interactive Go Electric zone

The Crystal: Interior view



The "Forces of Change" theatre presents the challenges and opportunities faced by the world

The Benefits of Draco compact extenders:

- Reliable bi-directional operation up to 140 m using Cat X cables
- Instant response for interactive touch operation

IHSE GmbH
Maybachstrasse 11 | D-88094 Oberteuringen | Germany
Phone: +49 7546 9248-0 | Fax: +49 7546 9248-48
Email: info@ihse.de | www.ihse.com