

heritage development

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Chris Smith interview

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Museums & Heritage Show
MuseumsMesse Bremen**

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Emma Dawson-Tarr throws new light on contemporary displays

High visibility fibre

We have come a long way from the early days of

fibre optic lighting. The first museum installations were used purely for conservation purposes, or in hard to access areas – when extreme constraints of environment or conservation led to the high levels of expenditure associated with this then revolutionary “high tech” lighting medium.

Today, increasingly advanced and technologically sophisticated fibre optic systems offer unique scope for variety in illumination effects, whilst maintaining all the original advantages of safety and security that the fibre optic option provides. They are also becoming much more cost-effective as a long-term lighting solution, given the diversity of benefits in all aspects of their performance. Now, fibre optic lighting is on everyone’s mind, and on every specifier’s tender document – but is it yet well enough understood, and are its genuine benefits being exploited to the full?

Most people are now aware of the medium’s traditional advantages, but new benefits are evolving all the time. A brief checklist of these may be useful.

No Ultraviolet at output: the passage of light through 1.75 meters of glass fibre reduces ultraviolet emissions to less than 10 microwatts per lumen, which is well below the inter-Conservation lighting at Kensington Palace. (Reproduced by Gracious Permission of Her Majesty the Queen.)

nationally recommended levels for proper conservation.

No heat at output: although fibre transmits Infra Red wavelengths efficiently, this may be filtered out at source and no radiant heat is generated at the fibre output. Thus a controlled environment within a display case is not affected as to temperature or humidity variations as a result of the lighting.

Controllable light and lux levels: it is generally accepted that artefacts with different degrees of sensitivity to light need to be displayed under controlled lighting conditions – either keeping lux levels low, or monitoring the lux hours of illuminance at higher levels. Well designed fibre optic systems can balance light input with fibre size and length to deliver the required levels of light at output, and also provide flexible light intensities by dimming at both input - and even individual output - heads. Techniques now exist for controlling the shape and

size of the beams of light at emission (framing for paintings; accenting for small objects), as well as for eliminating distracting glare.

Security and maintenance: the enclosed environment of the display cabinet need never again be accessed for relamping purposes. All elements requiring routine attention are exterior, or at a remove, from the area of illumination.

Aesthetics: this is the most challenging, and perhaps least understood, aspect of fibre optic lighting systems. The scope for variety is immense, and certain specialist firms have developed quite extensive ranges of equipment – light sources, bracketry and fittings – which provide great flexibility of operation and control over performance. The scope for miniaturisation with fibre lighting is tremendous, and can be of great advantage to the designer and curator. After all, it is the objects which deserve centre stage – not their means of visibility!





Robustness: many might see this as a contradiction in terms, but increasing use is being made of fibre optic lighting in exterior applications – where lack of heat and energy at output is a major advantage. For high level illumination of exterior facades, too, the absence of maintenance at output is joyous and liberating! Fibre optics are completely passive in operation; properly specified, manufactured and installed, they will endure for as long as the fabric of the building which contains them.

Intelligence for preservation: the computer is only as clever as its programmer or user – this we know. Equally, lighting systems can only deliver light and respond to environmental changes if cleverly controlled. Watch this space – the systems which respond to lux hours calculations and deliver reports and recommendations from constant monitoring are not far away.

This list is by no means exhaustive, but hopefully indicates some of the areas in which this form of lighting can expand options and horizons. As with most new technologies, established experts move into the role of Specialist Consultants, and it should be a reassurance to the market to know that some experienced and reputable organisations are now able to provide this kind of service. To ensure optimum specification of fibre optic systems, so that they yield maximum return on investment to the user, it is always advisable to seek proper advice. In this way, fibre optic installations can be specified, manufactured, installed and commissioned with the greatest care and with the highest long-term benefit to both client and objects.



TOP
Royal Ontario Museum,
Toronto, Canada:
Fibre Optic
lighting of the
Perren Gem and
Gold Collection.

ABOVE
National Gem
Collection at the
National Museum
of Natural History,
Smithsonian
Institution,
Washington DC:
exclusively
developed fibre
optic lighting
systems, with
each exhibit
having its own
customised
techniques.

ABOVE LEFT
Imaginative use
of fittings and
fibre to illuminate
the giant Beryl at
the Royal Ontario
Museum,
Canada.



ABOVE
Imperial War
Museum, London:
one of the early
and enduring fibre
optic installations
for conservation
lighting – here
sensitive organic
materials and
papers.

Emma Dawson-Tarr is Managing
Director of Absolute Action Ltd



ABOVE
The Gulbenkian
Museum, Lisbon.
(Reproduced by
kind permission of
The Gulbenkian
Foundation)

Architects:
Bickerdike Allen
Partners.

Lighting
Designers:
Lighting Design &
Technology.

Lighting systems:
Absolute Action
Limited.

Absolute Action have specialised in advanced fibre optic lighting systems since 1983. With a record of acclaimed installations, the company has a worldwide reputation for innovation, quality, reliability and durability. A continually evolving range of fittings, fibre lightguides and light sources is available to satisfy a huge diversity of lighting requirements - conservation, accent display, interior and exterior architectural and decorative applications. With a rapid-response design facility, flexibility and experience, challenging requirements can be fulfilled.



Cover: Playing with Light at
the Roald Dahl Children's
Gallery, Buckinghamshire
County Museum.
Lighting by Absolute Action
Ltd (0181-871 5005).
Photo: Bremner & Orr
Design Consultants.