

# Technology in Museums and Art Venues White Paper

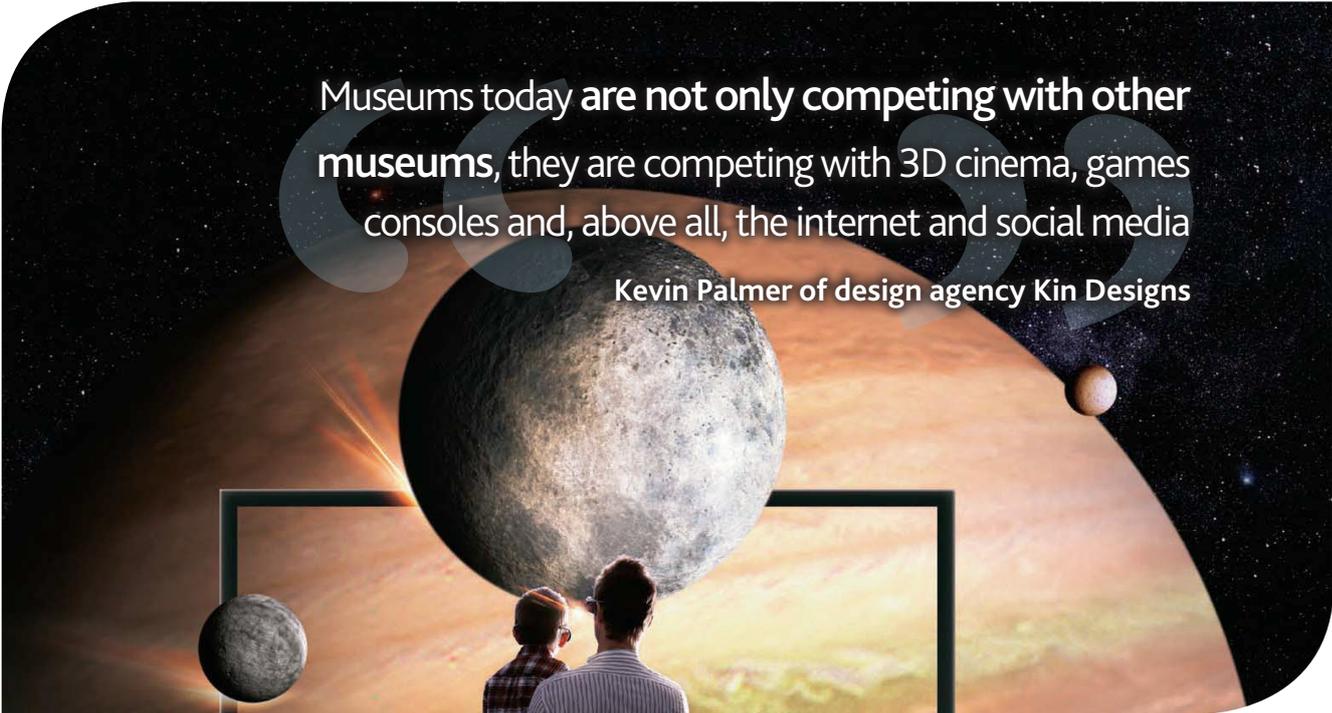
Combined, museums represent the primary tourist attraction in the UK. The British Museum alone was the UK's most popular visitor attraction in 2012 - the sixth year running it has been so, with The Association of Leading Visitor Attractions (Alva) stating the London venue attracted 5.6 million visitors. So why is it that a visit to a museum or gallery is so popular?

Certainly, the education aspect plays a huge part, with school visits being a common sight in most museums on any day of the week. However, of those who attended a museum or gallery at least once during the past 12 months, 'general interest in the subject of the museum / collection' was the most frequently cited reason for attendance (43%) followed by 'to see an exhibition / display' (40%) - source DCMS. The top reasons given for visiting museums and galleries are 'wanting to take the children' or 'children asking to go', this reflects the high proportion of family parties visiting the venues, source - Ipsos MORI.

Museums and art venues bring different things to different people – education, pleasure, inspiration and perspective to name just a few, but a common requirement is to provide a memorable, engaging experience. In an effort to provide this valuable

commodity, today's museums and art galleries have changed considerably from the artefact in a glass case concept or paintings simply hung on a wall. Technology has seen more interaction and engagement in everyday life than ever before and exhibitions and galleries are no exception. In fact, today's solutions can offer exhibits an unprecedented list of benefits such as digital interaction, information, security, plus a more streamlined and cost effective operation.

UK museums and art venues receive funding from various grants, including sponsorship, Arts Council funding, local government and even the Ministry of Defence for services museums. The Heritage Lottery Fund, the UK's largest dedicated funder, invests around £375 million in new projects annually and, since 1994, has seen more than £6 billion allocated to over 36,500 cultural projects throughout the UK.



Museums today are not only competing with other museums, they are competing with 3D cinema, games consoles and, above all, the internet and social media

Kevin Palmer of design agency Kin Designs

# The market

Government statistics claim that the arts industry in Europe is worth more than £36 billion a year; generating £70,000 every minute for the UK economy and employing 1.5 million people. Data from the museum association reveals that there are about 2,500 museums in the UK, of which 1,800 have been accredited. It is also worth noting that, despite one of the toughest economic periods in recent history, the economic contribution of the arts and culture sector in the UK has grown since 2008.

In what is an ever-expanding market, the Arts Council states that at least £856 million per year of spending by tourists visiting the UK can be attributed directly to arts and culture. With more

than half of the adult population in the UK visiting a museum or gallery in 2012, the sector offers a wealth of opportunities for AV integrators and installers.

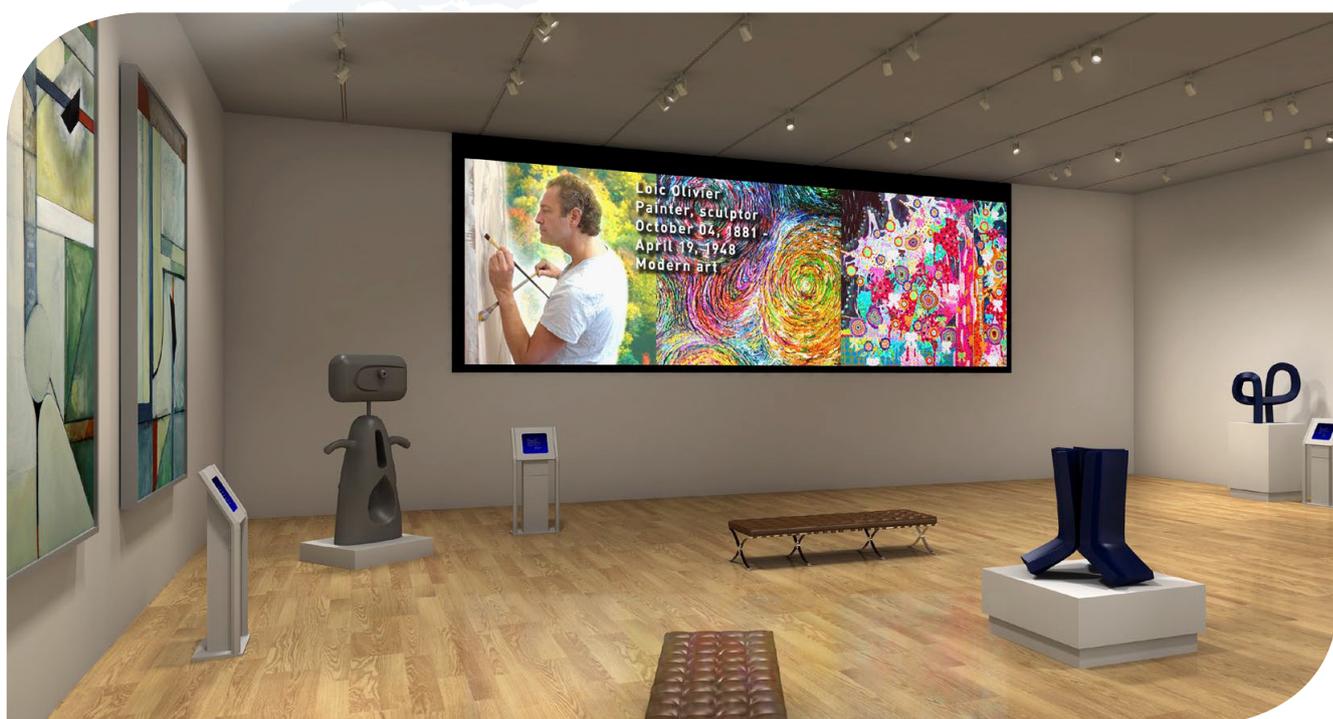
The latest technology solutions ensure that visitors get more from their visiting experience, encouraging more visits from word of mouth and the considerable impact of social media and online recommendations.

The Museums & Heritage Show is the UK's largest event for the cultural sector. Held at Olympia, London, on May 14th and 15th, it brings together all of the latest technologies, services and thinking for professionals working in museums, galleries, heritage and cultural visitor attractions.



According to 2009 research, 45.8% of **adults** living in England made at least one museum visit in the previous year. Two-thirds of **5 to 10 year-olds** and 59% of **11 to 15 year-olds** attended a museum or gallery at least once during that period.

The Museum Association



# The benefits of technology

**Atmosphere** - Adding atmosphere to an exhibition brings visitors closer to the subject and can help to leave a lasting impression. Away from the exhibit itself, mood lighting, projected images and, of course, suitable background audio can all combine to deliver an unforgettable experience. Using the power of today's latest projectors, even the outside of buildings can be used as a canvas, allowing associated imagery to cover external walls. The arrival of 4K displays, giving a resolution 4x greater than current full High Definition, allows visitors to see display clarity like never before.

**Engagement** - Bringing objects to life is the main aim objective of most museums and galleries. Smaller items, or detailed models of, for example, the intricacies of the Acropolis, can be reproduced to scale using 3D printers – allowing visitors to study exhibits in a new dimension. Using an audio narrative brings additional information to individual exhibits or throughout an entire exhibition. There are numerous wireless solutions available that can make the process secure and hassle-free.

**Interaction** - Giving visitors the opportunity to explore more detail on any exhibit opens up a wealth of interactive possibilities. Interactive touchscreens can be used to put knowledge to the test, and provide an exciting way to educate visiting students. Projectors can display scenes from a particular period to immerse visitors into the heart of the subject matter. QR codes can bring additional information to smartphones and portable devices instantly.

**Security** - A museum's or art gallery's exhibits are valuable – in some cases priceless – and keeping them secure is clearly a prime concern. Technology provides a cost effective solution for monitoring every aspect of an organisation – helping to keep its people and assets safe with CCTV and access control working together with smart analytics. Voice evacuation systems – a legal requirement for public buildings – can be integrated to a local secure network.



In **January 2014** there were a total of **3.3 million visits** to sponsored museums and galleries.

Visits to sponsored museums and galleries were **6.6% higher** in January 2014 compared to December 2013.

Visits to sponsored museums and galleries were **10.0% higher** in January 2014 compared to January 2013.

\*Source Gov.UK March 2014

# The solutions

Today's world revolves around technology, with touchscreen surfaces and interactivity becoming everyday practice with smartphones and tablets. Whether visitors come from a neighbouring street, or a neighbouring continent, today's museums and galleries need to offer the wow factor to ensure

their exhibitions give the best impact to visitors. There are many ways that technology can be applied in museums and art galleries to enhance the visitor experience as well as provide greater efficiency for staff and management. Areas that can benefit include:

i) **Front Desk** - Interactive touchscreen monitors can inform visitors of show info, layout or address frequently asked Q&As. Scanners and labellers can ease the entry process, as well as making sure headcount issues and identity concerns are addressed. Digital signage at the lobby of any venue can showcase current or future exhibits to potential customers. Remote access control solutions can allow for automatic entry for paying customers, or to keep staff-only areas secure from unwanted entry. Cameras with face recognition capability can perform a variety of tasks, from analysing the demographic of visitors, monitoring directional flow of footfall around an exhibition, to alerting staff when known criminals enter the premises.

ii) **Art Gallery** - Vandal resistant cameras can keep prized exhibits safe, with analytics even capable of monitoring how long visitors spend observing certain pieces. For security, alarms can be set should the painting or artefact be removed from a predefined area with the camera. Touchscreens can provide an additional learning tool by letting visitors explore more about any exhibit, with audio bringing a natural addition to the feel of a themed display.

iii) **Exhibition space** - The latest projectors provide a compact, effective solution to displaying media. Whether it's to provide additional visual material to an exhibit, or to provide dedicated imagery in its own right, today's lamp free, LED and Laser light source projectors allow for a low TCO, environmentally friendly way to stimulate the visual senses. Solutions with ultra-short-throw capability allow for use without glare or shadow affecting the experience. Using a number of projectors, coupled with edge blending software, provides the ability to display huge images onto the largest of areas.



This, in turn, allows for a wholly flexible way to bring atmosphere and dimension to an exhibit room with still imagery and movies, with audio support where necessary. Videowalls of almost unlimited screen number bring huge visual impact, and can be used as a virtual 'window' in creative themed set-ups. To enhance any exhibit, touchscreens can let visitors explore for themselves. Small artefacts can have larger reproductions simply made with 3D printers – giving visitors a chance to better observe, or even handle, exhibits. Technology can be used to draw in even first time visitors. People – particularly students - who have little or no familiarity with the art, can be engaged because they are familiar with the technology.

iv) **Gift shop/Café** - Compact counter-top scanners, touchscreen point-of-sale solutions and fast receipt printing all streamline transactions. Digital signage can be used to showcase promotions and offers to enhance business. Today's displays are designed for continuous 24/7 operation but, with energy efficient credentials, still maintain a low total cost of ownership due to their power-saving LED design.

v) **Auditoriums** - Wireless microphones provide freedom of movement to those presenting and ensures audience participation is heard during question and answer sessions. Quality speakers, perfectly suited to a room's acoustics, can convey crystal clear sound to all corners of the room, with mixing desks governing the ideal noise level. Using eco-friendly, laser-hybrid projectors in an auditorium allows for quality presentations to an audience, with today's projector screens offering fixed, permanent or motorised options for use when required.

vi) **Venue wide** - LED lighting. With energy consumption 80% lower than traditional halogen equivalent, LED lamps offer any business an efficient lighting solution that requires minimal maintenance. These lamps are environmentally friendly and comply with all new regulations. Using strip, spot or flood lighting, LED technology can also add colour and tone, enhancing any exhibition. As well as reducing energy usage, LED lights are also mercury free, meaning it does not involve special handling and disposal treatment. Choosing the right networking solution allows signage and displays to be managed from a centralised source, with systems designed for sending video sources across large distances with no breakdown in quality. Recent changes to the law make it a legal obligation to provide specific, non-discriminatory services in any building used by the public. Installing hearing loop technology at key points around a venue ensures the hard of hearing are catered for.



# Summary

Technology, by its very nature, is forever in a constant flux of development, with a primary purpose of making things more exciting and /or more cost effective. By utilising today's solutions, museums and art venues can not only enhance their current offering with features and qualities designed to further improve the visitor experience, but can also streamline time-consuming processes, thus saving money while providing a better service. Using future-proof networking hardware provides the flexibility to update or upgrade as demand dictates.

The drive towards a **greater level of audience inclusion** to the modern museum, gallery and visitor attraction has seen the marriage of the latest compelling entertainment, **content and technology combined** into the educational medium to create 'edutainment'.

Kevin Williams, director of consultant KWP



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