

Up Front and Personal

Digital Out-Of-Home Communications.
The future is here and now...



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Centre for Future Studies

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Technology, specifically enabling technologies, is transforming the communications world into something that, until recently, has only been written about in books and played out in science fiction movies like Minority Report.

The future is here and now...

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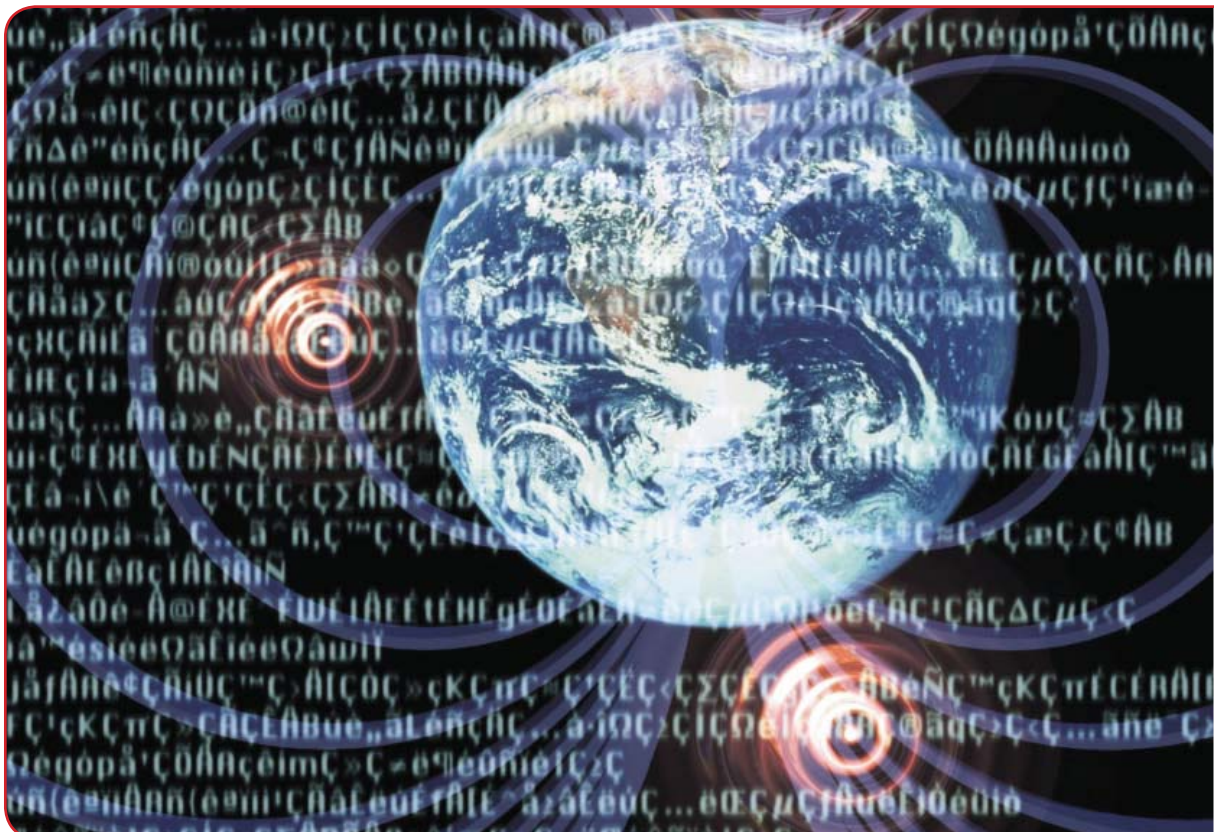
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About 3M|GTG

3M|GTG is the world's leading Digital Out-Of-Home specialist, helping brands engage and inspire audiences in ways never previously imagined.

They deliver bespoke solutions tailored specifically to clients' communications challenges in the fields of advertising, retail, events, broadcast and architecture. 3M|GTG uses the latest audio visual technology to create rich and immersive brand experiences like the enthralling submarine simulator at Dubai's Burj Al Arab Hotel, the world's most advanced outdoor sign at the Wynne Hotel in Las Vegas and the ground breaking digital display at the new Munich Airport concourse.

3M|GTG has design centres in Germany, Dubai and China - with a fully trained and experienced team in all major European countries.



Preface

Customers are urgently looking for the WOW Effect to create awareness and transfer an innovative image. Most digital signage to date has been a video feed or a slide-show, where it is almost like a poster replacement.

Those ways of delivering content are not catching consumers' attention any longer. Building brands and relationships with customers can only happen when you add value to their experiences.

Next generation digital signage is about creating rich and immersive user experiences.

Operators of digital signage networks, location owners, media agencies and brands need dynamic solutions. Successful digital signage applications are driven by market and users' needs.

The future of the industry is here.



Daniel Steinbichler
CEO 3M|GTG

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Center for Democracy & Technology (CDT)

Definitions

DOOH (Digital Out-Of-Home) is any signage that is running content and/or advertising in a public space. This could be four-inch shelf talkers in a supermarket to massive LED billboards on the side of the road and everything digital in between. Digital signage takes various forms, and could be a projector, plasma, LCD, television, or a computer monitor displaying advertisements in a shop.

Alternatively, displaying training seminars in a university would be considered a form of digital signage. It's most common application is a network of numerous digital displays installed in one or more locations that are controlled from a central computer or server.

Digital signage allows communicators to project a message to their customers and/or employees through a private network. A complete digital signage network includes servers, displays, and the control point. The network is normally owned by one entity, however, some businesses own the equipment while the digital signage provider owns the network's design, software, and content.

Digital Advertising Networks: Digital networks integrating targeted entertainment and/or information program content with advertising narrowcast through digital networks and/or screens in place based venues such as big box and small retail, transit, malls, grocery, health clubs, medical centres, petrol stations, office buildings, hotels and other Out-Of-Home consumer venues.

Digital Billboards & Displays: Communicate advertising-only messages through screens equipped with LED (Light emitting diode) or LCD (Liquid crystal display) technology, often changing at predetermined times, or through motion recognition technology, to showcase multiple brands.

Digital Sign: A display device that has the ability to display dynamic advertising and replaces static billboards and posters.

Digital Signage Network: The connected grid of digital signs, which can be controlled remotely (via the internet).

Engagement: The degree to which consumers focus or pay attention to a particular program or message. The level of engagement can be a function of the message's relevancy to the consumer, the degree of interactivity of the medium, the nature of the consumer exposure (e.g., stationary vs. in movement impressions, captive vs. non-captive audience) and the breadth of competing messaging.

Narrowcast: Programme content designed to reach a specific group defined by demographics.

The Future is Already Here

The underlying premise of **Steven Spielberg's** movie *Minority Report* is that by 2054 our way of life has been transformed by highly sophisticated technology that recognises us by name; it knows our likes, dislikes and interests. It can read our minds, know our innermost secrets, and anticipate how we will behave. The technology utilises super intelligent computer screens, monitors and holograms which are an integral part of the environments in which we live:

<http://bit.ly/GPLyV>

John Underkoffler, who designed most of Anderton's interface after Spielberg told him to make it "like he was conducting an orchestra", said "it would be hard to identify anything [in the movie] that had no grounding in reality".

<http://aol.it/9RI0Qs>

<http://bit.ly/bRIJuY>

Although this may seem a little far-fetched, technology is being developed to bring this kind of world closer to reality. And we may be even closer than we think.

Technologies from the film that were subsequently introduced or are being developed include:

Multi-touch interfaces, similar to Anderton's, developed and distributed by Microsoft (2007), MIT (2009), and Intel (2009), and Microsoft again, this time for their **Xbox 360** (2010). A company representative, at the 2007 premiere of the **Microsoft Surface**, promised "it will feel like *Minority Report*." When Microsoft released the **Kinect** motion sensing camera **add-on** for their Xbox 360 gaming console in 2010, the Kinect's technology allowed several programmers to create *Minority Report* inspired user interfaces.

"The future is here.
It's just not widely distributed yet."

William Gibson
American/Canadian writer and futurist who coined the term "cyberspace"

Retina scanners were developed and launched by Global Rainmakers Incorporated (GRI) in 2010. Minority Report is one possible outcome.

<http://bit.ly/GPLyV>

The company is installing hundreds of the scanners in Bank of America locations in Charlotte, North Carolina, and has a contract to install them on several United States Air Force bases.

“In the future, whether it’s entering your home, opening your car, entering your workspace, getting a pharmacy prescription refilled, or shopping in a supermarket, everything will come off that unique key that is your iris.

So, not only are the eyes the windows to the soul, they’re also the key to your garage-door opener.”

Jeff Carter
Hoyos Corporation

The technology is evolving rapidly. The latest scanners are able to capture the iris from a distance of ten feet. Future devices might read irises from more than 30 feet. The newest machines are also able to process hundreds of iris scans per minute, meaning they can be used effectively in crowded public places.

RFID readers: In 2010, **IBM UK** was working on a technology that would turn ordinary digital billboards into RFID readers. They are capitalising on the fact that most of our credit cards and mobile phones now have built-in RFID chips that house all of our personal information. A reader inside the board will identify you, potentially even by name, and deliver you a personalised advertisement. Apple is looking to implement RFID into its iPhone 5, creating a whole new world of opportunity for DOOH:

<http://bit.ly/a2SCqD>

Crime prediction software is being developed at the **University of Pennsylvania** (2010). The software collates a range of variables then uses an algorithm to work out who is at the highest chance of offending. As in the film, the programme will have a trial run in Washington D.C., which, if successful, will lead to a nationwide rollout.

Facial recognition advertising: The Japanese company **NEC** is developing facial recognition advertising billboards. These billboards will theoretically be able to recognise passers-by via facial recognition, call them by name, and deliver customer specific advertisements. So far the billboards can recognise age and gender, and deliver demographically appropriate adverts, but cannot identify individuals. The billboards will “behave like those in *Minority Report*...in which Cruise’s character is confronted with digital signs that call out his name as he walks through a futuristic shopping mall.” **IBM** is developing similar billboards which plan to deliver customised adverts to individuals who carry identity tags.

Electronic paper, was a development announced by **Xerox** in 2002; by **MIT** in 2005, by media conglomerate **Hearst Corporation** in 2008, and by **LG**; a South Korean electronics manufacturer in 2010. In 2005, when the **Washington Post** asked the chief executive of MIT’s spin-off handling their research when “the “*Minority Report*” newspaper” would be released, he predicted “around 2015.” In 2006 **PC World** announced in an article entitled: “German researchers say ‘*Minority Report*’ Transparent Screens Possible”. German researchers thought they would be available in two years. Tech watch’s 2008 article, ‘*Minority Report*’ e-newspaper on the way, noted that Hearst was “pushing large amounts of cash into the technology.”

Minority Report technology is driving a metamorphosis in Out-Of-Home communication (OOH). For years OOH has been a static, one way message medium. Today digital technology is enabling the delivery of targeted, personalised messages with which consumers can interact. Over the coming years, the industry will become an integral part of the digital communications network impacting on the daily lives of people on the move.

This insight briefing looks at the current and developing state of the art, and presents insights into the future of the industry.

Key Points

- ✘ Science fiction is becoming science fact. Digital technology is transforming OOH to DOOH enabling the delivery of targeted, personalised, interactive messages to audiences on the move. The technology can communicate and interact with consumers and provide detailed marketing metrics which was once the holy grail of advertisers.
- ✘ In turn, Digital Out-Of-Home (DOOH) communications are transforming the environments in which they are located. In transit venues, shopping centres, retail outlets, supermarkets, theatres, restaurants, petrol stations, medical centres; even entire cityscapes are being illuminated in digital video cladding.
- ✘ DOOH is appearing in different formats, sizes, and locations with specifically designed technological capabilities to suit the location. From small screen 'point of sale' functionality to large multi screen displays, DOOH arrests attention, engages the consumer, delivers information, entertains, builds brands, and facilitates audience response.
- ✘ The industry is expanding, becoming increasingly 'intelligent', converging with other media and incorporating technologies that are delivering a 'Minority Report' experience. The industry has reached a tipping point.
- ✘ The industry is growing across the world and in some advanced market areas forecasts are for annual compound growth in double digits.
- ✘ DOOH technologies are enabling the collection of accurate, real time marketing metrics that are demonstrating the increasing effectiveness of the medium in stimulating consumer interest and desire to purchase.
- ✘ The industry is converging, consolidating and entering a 'breakout' period with strong service providers better placed to deliver scale and effective marketing strategies.
- ✘ The world is becoming increasingly mobile. Urbanisation, 'without location working' and mobile communities mean more people are on the move and increasingly contactable through digital technology.
- ✘ Technological innovations are leading to the integration of communications channels on one screen. Distinctions between DOOH and other media will become irrelevant.
- ✘ The capital and operating costs of establishing and running networks have declined in recent years, substantially shortening the timeline to profitability.
- ✘ Major holding companies are making equity investments. It takes about 10 years for any industry to mature, and that's really about the length of time that DOOH networks have been established in any significant number.

Mega Drivers

Growth of the urbanites

Between 2009 and 2050, the world population is expected to increase by 2.3 billion, passing from 6.8 billion to 9.1 billion. At the same time, the population living in urban areas is projected to gain 2.9 billion, increasing from 3.4 billion in 2009 to 6.3 billion 2050.

Thus, the urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population. As a result, the world rural population is projected to start decreasing in about a decade and there will likely be 0.5 billion fewer rural inhabitants in 2050 than today.

Most of the population growth expected in urban areas will be concentrated in the cities and towns of the less developed regions. Asia, in particular, is projected to see its urban population increase by 1.7 billion, Africa by 0.8 billion, and Latin America and the Caribbean by 0.2 billion. Population growth is therefore becoming largely an urban phenomenon concentrated in the developing world.

Urbanisation is expected to continue rising in both the more developed and the less developed regions so that, by 2050, urban dwellers will likely account for 86 per cent of the population in the more developed regions and for 66 per cent of that in the less developed regions. Overall, the world population is expected to be 69 per cent urban in 2050. By 2050 two in three people on the planet will be city-dwellers. More than half of the population of India, three-quarters of that of China, and four-fifths of that of Indonesia will be living in cities. Africa and Asia will account for almost seven in every 10 urban inhabitants globally.

Urbanisation is having and will continue to have an enormous impact on lifestyles and digital communications. Internet access and other data and video applications will be available everywhere and anywhere.

Citysumers will be spending a large proportion of their lives Out-Of-Home. In the UK for example the current figure is 42% of the time, and while it is difficult to quantify exactly how much this has grown, estimates suggest that between 1990 and 2010 there was a 33% increase in Out-Of-Home transit.

Minority Report – Realities Today

Facial recognition

There's a scene in 'Minority Report' where Tom Cruise (Anderton) walks through a shopping mall as cameras lining the ceilings and walls scan his retinas and advertisements custom-made for him pop up. He enjoys beer, so up pops a Guinness ad. This future has arrived in Tokyo. NEC has developed an 'advertisement' that follows a similar idea to that imagined in 'Minority Report,' with a camera installed inside an electronic billboard that reads your face. Using facial recognition technology, an internal computer determines your gender and your age. The billboard then pulls up an ad based on your demographic, targeting your best possible interest

<http://bit.ly/aLvUre>

“The DOOH industry is experimenting with powerful technologies to enhance audience measurement, interactivity and targeted advertising. The industry’s ‘2.0’ stage will likely see a mix of such technologies used in various contexts. Among these are mobile marketing, facial recognition, RFID, GPS, Microsoft’s **Project Natal** and **social networking**. Each of these technologies already has the ability to identify individual consumers, track them as they move from place to place, and store detailed information about their preferences and habits. Over time, identification and interactivity technologies will grow cheaper, more powerful and easier to deploy. Using these technologies, the DOOH industry will be able to deliver highly personalised advertising content to individual consumers. Applied widely enough in digital displays, such a system may be as profitable to the DOOH industry as behavioral advertising has proven profitable on the Internet.”

<http://bit.ly/ienhMg>

Harley Geiger
Policy Counsel at the Center for Democracy & Technology (CDT)

“Ten percent of digital signage will be like this in two to three years. That’s a global prediction, from the United States to the EU to China.”

<http://bit.ly/2RhdVC>

Kosuke Yamauchi
NEC spokesman

Facial recognition technology is a rising trend in the digital signage industry. Advertising agencies and content producers - in search of quantitative return on investment and return on objective numbers are embracing it. Audience measurement provides data on age, gender, the amount of time the person looked at the display (i.e. dwell and attention time), and the total number of viewers.

“Face recognition is just the tip of the new tech iceberg when it comes to outdoor innovation – live video, augmented reality, live tweeting, interactive gaming and 3D posters are all rolling out across the high street and the shopping malls.

Advertising is increasingly about the personal. What you’re seeing with these new technologies . . . is DOOH becoming as tailored as almost any other medium.”

Ivan Clark
Independent outdoor specialist and blogger

Gladvertising / Sadvertising

The software will soon be capable of capturing not just the gender and age range of consumers but also the mood they're in.

"It will be feasible (for cameras) to read if someone's happy or angry, according to their facial expressions.

We are going towards a world in which advertisers want better analysis of who their customers are, what mood they're in, and what they can offer them in that mood, at that moment, in that place."

Dr Vicki Rabenou
Chief Measurement Officer Tru-Media

When we smile, frown or grimace, thousands of tiny facial muscles are at work. Emotion-recognition software, or ERS, creates a 3D face map, pinpointing 12 key trigger areas like eye and mouth corners. Then a face-tracking algorithm matches the movements to six basic expression patterns, corresponding to anger, sadness, fear, surprise, disgust and happiness, or a mixture of them.

Automatic emotion recognition software:

<http://bit.ly/dVqsoh>

<http://bit.ly/a48jMy>

Emotion is fundamental to human experience, influencing cognition, perception, and everyday tasks such as communication and shopping decision-making. Could advertisers read your every emotion, and thus cater their advertising to your mood? It's not a question of 'if' but 'when'.

The website at <http://bit.ly/bOjCY2> will analyse the mood you were in when your photo was taken.

The BlackBerry Empathy is designed to not only read your mood, but also react to it.

Daniel Yoon and Kiki Tang are the designers behind the Empathy, and their main focus was a device that not only "feels you" and your emotions, but that can react to them. While you use the device, or interact with it in any way, a biometric ring will tell the device how you're feeling at any given moment. As it does, the ring will feed the data to the device, and will be able to change features, as well as details, in real-time, based entirely on your mood. And, if you know someone else who has the Empathy, you can see on your own device how they are feeling. You can also see the emotion they were feeling before their current state of mind. This will help you gauge what's going on in that person's day, and help you determine whether or not you want to talk to them.

<http://bit.ly/dJDKHk>

The challenge facing the creatives will be the need to be far more sensitive to feelings and emotions and how best to respond to them. Gone are the 60's Mad Men to be replaced by creative psychologists.

Augmented reality

Digital displays are the place where the digital and the real world meet giving rise to a fascinating new user experience of mixed realities. Real-world video images can be augmented with digital animation to form a totally a totally unique experience. Catalogues showing three-dimensional computer simulations of the products they contain and the stories spring to life. Brochures become like magic books when users interacted with computer models of the products on offer.

Augmented reality

Cisco Augmented Reality at retail fitting rooms

<http://bit.ly/k7vQ0>

Experience The Enterprise - Star Trek Augmented Reality (AR)

<http://bit.ly/16jnLc>

Layar, the world's first mobile Augmented Reality browser

<http://bit.ly/urLry>

Through the use of your mobile phone, you can simply hold it up in any environment and instantly see, through this "augmented" reality, people around you, what they're saying, what they've said, where they want to go, where you should go. The open space around you instantly becomes interactable.

Augmented Reality, Touchscreen Technology & Social Media Integration

<http://bit.ly/eJJa9o>

Animated Lego Digital Box at Downtown Disney Orlando

<http://bit.ly/kCtHN>

Sci-fi inspires Augmented Reality

<http://reut.rs/gDrKVj>

Gesture-Based Interfaces

Gesture and touch are the user interfaces of the future.

Immersive, interactive advertising and digital signage technology tracks people's movements and puts their real-time video image onscreen into an interactive digital environment or advertisement. People interact with the onscreen content and make changes to the graphics and special effects by moving their hands and body.

<http://bit.ly/fyFA35>

Microsoft's Kinect **Will Bring New Interactivity to DOOH**. The Kinect technology uses stereoscopic sensors that monitor a person's body and responds to its commands. While the video gaming world has seen many applications, the Digital Out-Of-Home is looking even closer.

Interactivity is key to customer engagement. What is also key is Anonymous Video Analytics, measuring who is in front of digital signage to give them a targeted message. The technology behind Kinect can be leveraged to do both: provide an interactivity with a message or digital content that does not require touch, and recognise people to deliver targeted content.

Imagine Kinect-like technology on the pavement in front of a shop and tell people: 'if you dance and get above 80% in this game, you will get £25 off your next purchase. Imagine people lining up to dance in front of a store, which will only attract more people to see what the commotion is about.

While this is just a hypothetical situation, the technology is here, and the possibilities of creating interactivity with a screen that does not require immediate proximity will be almost endless.

Personal and friendly

Retailers will ask customers to "Connect using Facebook Connect" to their mobile device as they step in the shop. By doing so, they will receive customised recommendations on their phone and on digital displays. Their friends, who have visited the shop, will digitally indicate which clothes are 'right for you'. Digital displays will also recommend what's 'right for you' based on what your friends 'like'.

<http://bit.ly/d0RXRb>

Through social media like Facebook, personal information about customers can be used to custom design sales communications based on their likes, dislikes and personal preferences.

“Technology, specifically enabling technologies, is transforming the DOOH world into something that has only been written about in books and played out in movies. Personalisation is really the key to effective communication, which is the key to creating and sustaining relationships between brands and their audiences.”

Mike Cearley
11th Screen

Key developments

A number of key developments are shaping the market:

Convergence: We are now seeing strategy for major rollouts that are for ‘digital media networks’ not just ‘digital signage networks’, these combine Digital Signage, Screensavers, Interactive (touch, sensor, RFID) and Mobile apps. No longer is managing a network of ‘screens on a wall’ in isolation to the many other channels of media a winning business proposition.

Social Media: Integration with viewers through social media and sharing is key to brands and this is being extended through to DOOH. Whether it be mobile image uploads that appear on screen or twitterfalls we will see more customers integrating social media into their screen strategy.

Call to action: In particular in retail and DOOH there is an increasing demand for QR codes on content to enable viewers to continue and extend the brand interaction beyond the screen and onto their mobile devices.

The Cloud: Using the Cloud (SaaS) for managing digital media networks over ‘on-premise solutions’ is gaining ground. Customers can leverage cloud-based digital signage services by simply having fixed or mobile internet access at each remote location where playback of media is required and also from any point where they wish to administer their network.

Open Standards: Media RSS and SMIL have opened up the market for hardware, software and syndicated content companies to collaborate and provide scalable interoperable digital media solutions. This openness offers true multi-vendor choice for customers eliminating the requirement to purchase a 'cradle to grave' proprietary solution from one vendor.

Reseller uptake: Digital signage is now being embraced by AV and IT resellers that would never have consider it as core to their strategy a year or two ago.

Mobile: One of the most significant recent convergence trends in the DOOH market involves mobile digital signage. The term encompasses a range of executions which exploit the mobile phone's ubiquity, interactive capability, and immediacy when used in combination with DOOH media. Mobile digital signage allows users to engage with games, ads and other content on screens via their cell phones. Mobile is widely seen as the key to increasing interactivity to the Digital Out-Of-Home market, serving as a gateway to many different technologies.

“What starts as a campaign on a DOOH network can have calls-to-action on the screen that encourage viewers to use their smartphones to engage with and influence what’s playing, or to download more detailed information. What gets pulled to that handheld device can drive them online to a brand website, Facebook page, or YouTube channel, and into a programme that starts to build some interest and loyalty. Email, text messaging, and tweets can follow from that data capture, and the media can steadily interact.”

Rob Gorrie
President and Founder, ADCENTRICITY

Key trends

Contextual Out-Of-Home: More advertising messages are based on external data – ranging from the age of the viewer, to the current weather, to the store’s stock levels. One of OOH’s biggest strengths, matched only by online, is the ability to change messaging according to context. And, in an ever more data-driven world, it’s no surprise that networks and advertisers are working to make Out-Of-Home screens more responsive to their changing environment. The result will be spots that better match the needs of both advertiser and consumer, right here, right now.

Metrics standards are gaining ground: Both the media owners within the DOOH sector, and the buyers looking at the bigger advertising picture, have long identified accurate and standardised audience metrics as the key to credibility. Significant progress is being made in this regard and adoption by increasing numbers of networks will allow coherent planning across DOOH and other media.

Aggregators deliver audiences – not locations: The separation of the network from the venue owner is a critical part of DOOH’s progression into the mainstream. Aggregators, who package up multiple networks to offer a media buy based on demographics or region rather than a particular set of venues, are growing in significance in the North American market, and it is expected that the same to happen in other territories, including Britain and mainland Europe.

Media sales are increasingly done by media sales people, not by the organisation who installed the screen: The same forces driving the move toward metrics and the rise of the aggregators is also leading to the creation of bigger, better-informed and better-resourced DOOH sales teams, both within media owners and in dedicated sales houses.

International DOOH packages becoming available to media buyers: It’s true that most campaigns are territory-based; so in DOOH, as in other media, there’s limited demand for cross-border buying. But there are special cases, event-linked promotions for example, where cross border buying is needed. Whether owned by a single company or aggregated, DOOH media platforms will offer highly targeted and highly visible international opportunities at a fraction of the cost of buying conventional media in multiple territories.

“I can imagine a time when space stations orbiting the earth will have digital display communications. That isn't 'Out-Of-Home'; it's out of this world.”

Dr Frank Shaw
Centre for Future Studies

Reachable audiences gaining critical mass: The sheer number of Out-Of-Home screens and people watching them now makes DOOH comparable to established media for many advertisers' purposes. This, in turn, leads not only to more use of the medium, but also to the development of a thriving eco-system of sales, creative and production specialists and the further expansion of networks.

Retail Digital World: Retailers are changing their models to be more inclusive of different paths to purchase. The path to purchase is now so complicated, and the technology is so incongruent, that retailers are looking for complete solutions that will help them embrace the digital world.

Digital signage in retail is about helping the customer to buy something. So digital screens will be focused on that alone in retail and not on ad networks in retail. Retailers will be implementing inclusive, integrated digital signage solutions that include social, desktop, in-store and interactive that will help the customer 'buy something today'.

Integrated Digital Signage Networks: Interactivity with digital signage networks allows shoppers to gather information of their choosing. Measuring real-time results track shoppers' engagement with the screens and collate those results with electronic Point-Of-Sale data. This empowers retailers to know what digital signage content works best to stimulate sales.

Interactive Suggestive Selling on Networked Kiosks: As retailers integrate databases for their various in-store digital media technologies, interactive suggestive selling will occur via digital signage networks, via personal interactive devices, via smart phones, etc., depending on the preferences expressed to the retailer by individual shoppers.

Personal Interactive Devices: Personal interactive device technology can be integrated with digital signage networks to facilitate personal content on the digital signage screens. This interface with digital signage technology will happen as the digital signage and other in-store devices are equipped with wireless intelligence that recognises the personal interactive device and, thus, the shopper.

Virtual Sales Associates: This technology allows a retailer to develop sales experts off-site who can serve many stores. It promises to improve customer service, enabling retailers to provide shoppers with the same depth of information on products and services that they have come to expect online. Data from a shopper's interactions with the virtual sales associates can become part of the digital media database.

Interactivity via Mobile Phones: Payment, Search, and Control of other In-Store Media: In their book on in-store digital media, *Lighting Up the Aisle*, consultants Laura Davis-Taylor and Adrian Weidmann write, "Not only can mobile...be used to quickly follow through on promotional calls-to-action, but...(also) for virtual rain checks, instant coupons (and) social networking...One of the more exciting applications is...'local search,' where shoppers can text in a (mobile phone text message) to download promotional offers...Even better, users can dig into the product promos (using mobile phones) to check price and store availability."

Near Field Communication: (NFC) is shaping up to be one of the hottest tech trends now that **payment systems** and **new handsets** are making their way into the US and Europe.

Personal Preferences Profiles: Cloud based computing (**The Cloud**) will change consumer behaviour. Instead of individuals carrying laptops with their data and applications stored on them, they will carry netbooks and rich communications devices. These devices will contain only the communications technology needed to connect to these networks and access any service the individual might want. In the same way that IP has opened up the enterprise, cloud based computing will open up communication for the individual.

Facebook has more than 500 million active users.

<http://on.fb.me/dzd0hk>

The average user has 130 friends.

Twitter is now attracting 190 million visitors per month and generating 65 million tweets a day.

<http://bit.ly/XEiHO>

LinkedIn tops 70 million users.

<http://linkd.in/14X3E7>

These sites contain the personal preference profiles of subscribers as well as demographic and occupational data. All held in the cloud. This information will be used to personalise product/service offerings. There will be markets of one.

“In a recent study by PQ Media, marketers and advertisers chose “Viewer Engagement” and “Time Spent with the Network,” as the two qualities they most value in a DOOH Network. No other network qualities were even close, not “Reach”, not “CPM”, not “Targeting.”

Michael Quinn
Digital Media and Marketing

“What’s changing is (a) the technology, which is enabling billboards with rich media and high resolution graphics and (b) the rise of other new digital formats which offer a host of creative possibilities. Digital media are now appearing everywhere, opening up new communication channels and challenging creatives to go back to the drawing board with their campaigns.”

Richard Cobbold
Chairman of the Screen

“The convergence of digital platforms, the dramatic global growth of smartphones and increasing synergies between physical digital posters and their virtual equivalents in computer games have opened up new opportunities for integration of DOOH into wider campaigns.”

Stephen Randall
LocaModa



Interactive displays

Interactive digital displays represent a quantum shift from a 'one-to many' communications methods to 'one-to-one'. Traditional signage takes a single message and disseminates it to as many people as possible; interactive displays take a dynamic message and tailor it to one specific audience member.

On a practical level, this shift necessitates the creation of an entirely new body of message content. Interactive communications allow the retailer to target their messages to a specific time, place and customer. It's not just a static one-message-fits-all anymore. Interactivity gives the customer a voice and a means to communicate right back to the retailer.

For an interaction to take place between a customer and a digital sign, some sort of tool must act as an intermediary. Three predominant methods have emerged so far:

Integrated touch screens: Touch is the simplest and most effortless of interactions, and the one that requires the least explanation. A well-designed touch screen interface can be completely self-explanatory, easily navigated by even the least tech-savvy consumers and is ideal for a number of interactive applications.

<http://bit.ly/f9xgLY>

<http://bit.ly/hD1Ecu>

Handheld devices: Marketing initiatives have been launched built around SMS interaction. Consumers are urged to send a text message to a certain address. That message might prompt any number of replies: a custom message displayed on a digital sign, the purchase of a digital product or the instant delivery of an "m-coupon. This allows retailers to communicate targeted messages with customers while they're in the store.

Using a mobile phone to interact with a digital screen creates a unique experience that draws in multiple users and builds significant brand awareness.

<http://bit.ly/a0UQqA>

The future in retailing

Adidas Digital Display NRF BIG Show 2011

<http://bit.ly/fFw5yy>

<http://bit.ly/ejDiPE>

Intel's 3D Gesture Control Demo at CES 2011

<http://bit.ly/fHfvUN>

Interactive Retail Digital Signage Demonstration

<http://bit.ly/e4TcPJ>

Intel Intelligent Digital Signage Concept
(Jan. 7, 2010)

<http://bit.ly/8a37uD>

Cisco Big Idea Session
on the Future of Retail at NRF 2011

<http://bit.ly/eJORdB>

The Future of Shopping

<http://bit.ly/7CgEW>

Events and augmented reality

At trade shows that include exhibitor booths, augmented reality via a smartphone can deliver an image of the physical booth with information overlays including:

- ✘ Related content from an exhibitor: documents, white papers, on-demand videos.
- ✘ Bios/profiles of event staffers who are in the booth
- ✘ An option to view the demo
- ✘ An option to join a text chat with a virtual booth staffer

Research has found that on stand augmented reality experiences at events and exhibitions increase dwell time to an average of 15 minutes.

As well as providing an initial WOW factor, augmented reality increases dwell time and gives sales and marketing experts time to build a relationship and make a sale. The technology also allows brands to physically put a product in the hands of customers and demonstrate how it works.

Research also shows that simply by touching and interacting with a product for a few seconds can create an emotional attachment that leads to sales. This is because people become personally attached to the product within the first 30 seconds of contact.

The fusing of media

The gap between technology, marketing and sales is closing. This gap, from inspiration to purchase is closing at such a rapid rate with so many different methods of engagement and so many points of purchase that no longer can one media tell the story. It is not just TV, Internet, Mobile, Cinema and DOOH; it's all screens all of the time.

As the transmedia experience is connected to each and every screen, DOOH is becoming an activation 'point of entry' for the story and engagement. It is a contact point in the digital landscape that is relevant, immediate and drives the experience further down the transmedia highway.

The media campaign for Intel's smart TV in New York's Penn Station exemplifies the transmedia experience. It seamlessly integrates robust Internet content, broadcast programming, personal content and downloadable applications all viewable on one screen.

<http://bit.ly/fjXY0z>

The technology showcases the ability to recognise a consumer via an opt-in feature, welcome them by name and customise a smart TV experience based on the consumer's preferences.

The campaign started with outdoor media throughout the New York market, encouraging consumers to download a smart TV mobile app by texting 'Hello' to a mobile number. Participants then receive a link to download an app onto their mobile phones, which asks a few questions about the individual's TV viewing habits and preferences. They are then invited to Intel's smart TV experience event in the Penn Station Rotunda. As they enter, interactive touch screen TV's not only recognise them by name but create a custom smart TV experience based on the answers to the questions the individual provided when they downloaded the app.

As technology evolves in today's competitive market, advertisers now have increasingly diverse options when it comes to putting their message in front of and engaging consumers. In many cases that means using some form of Digital Out-Of-Home advertising. DOOH is becoming a key partner in branded and sponsored content.

Engaging consumers

Cisco recently surveyed 2,000 shoppers from the United States and the United Kingdom. The research found the majority of consumers (84%) enjoy the 'mashup' experience which combines Web-like capabilities with the shopping experience.

More than half of the study's respondents said they would be interested in seeing product-price comparisons, and reading personalised recommendations and peer reviews via touch screen at the shelf while they shop.

According to the study, shoppers use technology for a variety of reasons, but the most popular uses were to find the best price, save time and find the highest-quality products. Providing consumers with technologies, such as interactive digital displays, video assistants, social networking technologies and Wi-Fi networks was found to increase loyalty and sales.

In a 2010 survey of U.S. consumers conducted by Buzzback Market Research, the findings showed that 88% of shoppers are more likely to choose a company that gives them the ability to interact via online, mobile, or self-service device. With the modern day consumer more willing and eager to use technology outside the confines of the home, retailers are finding it beneficial to integrate customer-facing technology solutions into their stores.

Technology is the enabler that facilitates an improved shopping experience. Through advanced analytics and marketing solutions, retailers can deliver the information that shoppers want and need. Technology enablers come in many forms including customer relationship management, e-marketing programmes, self-service kiosks, self-checkout, social media and mobile applications.

Interactive retail signage solutions are no longer simple vending machines; they are information hubs and omniscient virtual sales associates.

The emergence of “experience” as a building material

Digital display technology is changing the face of architecture. Media has become a vital material. We are witnessing the emergence of “experience” as a material.

Today, the image surface has become part of our daily context at every level. In the architectural world, the primary driver behind image surface has been marketing and sales. Urban media structures, by their sheer scale and proximity, provide a powerful means to communicate and sell. In many cases the designs have been little more than 3D billboards, but as the public grows more discriminating this has begun to change. The tools we have today in show production and immersive communications are simply phenomenal.

There are two powerful trends:

Social Networking: In the worlds of Facebook, Foursquare and Twitter, things are just different. People expect to generate and control their environments and their interactions. Surpassing Google’s painting of a neighborhood with digital artwork, broad populations may soon be able to dictate their own physical worlds. Get ready for householders and all their friends to decorate the building architects create today.

Rapidly Evolving Interfaces: Imagery is becoming more organic and accessible. Right now, media is independent from architecture, but we’re beginning to see the integration of media and architecture. There was **Blade Runner**, and soon our cities reflected that vision. There was **Minority Report**, and soon the iPhone was born. Can the **Iron Man** house be far way?

Jenny Holzer's digital installation at the World Trade Center may offer clues to what's ahead. Holzer's memorial in LEDs, <http://bit.ly/g97R8li> is comprised solely of words. Both are beautiful, moving, and elegantly executed.

Both projects represent the future: a future that will not be a contest between digital media and traditional materials, nor a struggle between corporate marketing and individual expression, nor a battle between new ideas and traditional thinking. This inclusive future will be much more about "and" than "or."

Performance and measurement

Methods for measuring the impact of OOH advertising through audience metrics historically fell short of providing accurate and reliable viewership data. As a result, advertisers found it difficult to measure the return on their investment.

Today, emerging new technologies in DOOH audience metrics are challenging the status quo. Technology now allows advertisers to measure audience metrics in ways similar to that of traditional media (TV, radio and print). These include the accurate measurement of audience 'Presence', 'Notice' and 'Dwell Time'; the minimum set of metrics currently used in traditional media as an indication of advertising reach and impact.

These new technologies measure audience metrics on a 24x7 coverage and so provide a more complete picture of the market that is viewing the advertising content. Instead of relying on sampled responses from viewers, these new technologies provide data on the entire population of people who have had the opportunity to see and actually view the ad content. This increases the reliability of the data beyond what is achievable in methods currently used with traditional media.

At the leading edge of these advances is a move to link the messaging on retail digital screens directly to the sales data from the tills in the store. This will allow near real-time automated assessment and optimisation of the impact of digital advertising in store. This is akin to bringing the level of measurement and accountability normally associated with on-line advertising to the high street.

<http://bit.ly/fpEpzk>

Blended urban reality

Andrew Blum talks about the “blended urban reality” we inhabit as city residents in the digital age. “The bandwidth of urban experience has increased. The ancient ways are still there: the way a place looks, the neighbours we wave at and the hands we shake. But now, there is an electronic conversation overlaid on top of all that: tweets and status updates, neighbourhood online message boards, detailed mobile electronic maps, and nascent applications that broadcast your location to your friends.

It is neither cyberspace nor an urban landscape blanketed with blinking television screens, but the regular old city, albeit socially fused with real-time electronic interactions. Beyond a spiffed-up website and a host of new Twitter feeds, we hope to see the city push the envelope on digital information displays in public locations, improved signage across the transit system, interactive message boards like the one in Amsterdam’s Schiphol Airport that processes text messages from waiting friends and family and displays them for arriving passengers.

October '09 issue of Wired UK

Rachel Sterne, New York’s first digital officer

The Mayor’s Office of Media and Entertainment (MOME) Commissioner Katherine Oliver recently announced the hiring of Rachel Sterne as the City’s first Chief Digital Officer with the goal of improving communication with residents and businesses by enhancing government transparency and working closely with digital media.

This is the first time the City has hired someone to streamline digital media communications across a broad array of City agencies. Sterne is tasked with helping to make NYC.gov more user-friendly, ensuring that agencies integrate social media opportunities and serving as an advocate for the digital media industry in New York City.

Co-working without location

“The individualisation of working arrangements, the multi-location of activity and the ability to network all these activities usher a new urban space, the space of endless mobility, a space made of flows of information and communication managed with the internet”.

Manuel Castells

Co-working is the future of work.

Currently, people are telecommuting. They're working from home. They are making a shift away from rigid corporate structures towards a more flexible, more online way to work. And, increasingly, work isn't home or office based. It is where there is a connection. Coffee bars, restaurants, motorway services, trains and planes...

It is a megatrend that will keep growing.

In just one week, online workers accomplish more than 8 years' worth of 40-hour work weeks through transparency. The Internet enables the free flow of information and communication between workers and employers, beyond the limitations of the physical environment.

Employers, have the ability to collaborate with workers anywhere in the world and find the best worker for each and every job. Workers have the ability to work from anywhere in the world, on any job that suits their skills, no matter where it's located.

When work was tied to the physical world, location was key. Workers lived near where they worked or commuted. But that's the old model; work as a place.

In the future, work will no longer be a place! Work is anywhere the worker is. This is the new model, enabled by the Internet. It's about communication. It's about connection. It's about community. For workers, this means they have access to opportunities far beyond nine to five and where they live.

Mobile society

We are living in the Mobile Society where mobile devices have become the remote control for our daily lives. Any technology that enables better communication, shared knowledge and information and accomplishes tasks is being widely adopted.

The Mobile Society is completely different to the industrial society. It requires a new logic and signifies a reordering of business models and new flows of communication.

Connectivity and interactivity provide fertile ground for the growth and development of digital communities and move media from a push paradigm to a pull one.

Social networking sites like Foursquare and Facebook are changing the mobile society. The mobile social community numbers around 50 million users globally and in 2011 the number will reach 174 million.

The rapid rise of online social communities has created a new paradigm for personal networking. In a logical progression, many social communities are now based on portable wireless devices. Such mobile social communities will continue to extend the reach of electronic social interaction.

The smart phone will be the portal to all communication needs; business and social networks. All displays from phones to large format displays are becoming increasingly more interactive, progressing beyond the mouse and keyboard to using voice, touch and gesture. Gesture will win over touch in the end.

This megatrend will have major consequences for future marketing communications strategies and the DOOH industry.



“Any sufficiently advanced technology is indistinguishable from magic.”

Arthur C. Clarke
“Profiles of the Future.”

Digital advertising with your cornflakes

With the cost of producing digital displays dramatically falling, the world will see an explosion in digital out of home advertising. We will see screens mounted on municipal bikes, restaurant menus and even cereal boxes. Crucially for advertisers, these digital displays will enable them to target consumers in the context in which they are found. Plus with the world’s digital out of home displays connected to the cloud, feeding these billions of screens with a range of content will happen instantly. Plus, with these interconnected displays, marketers will be able to go intergalactic, with digital adverts featured on space stations orbiting the earth.

Adverts that create themselves

Thanks to the rapid advances in artificial intelligence, digital out of home adverts will create themselves in the future. Renowned futurologist, Raymond Kurzweil believes we are approaching a moment when computers will become intelligent, and not just intelligent but more intelligent than humans. They will have the creative capabilities to analyse the worst client briefs and turn them into award winning advertising campaigns. Furthermore, original music will be scored by the computer to accompany its original photorealistic 3D video.

Multi-sensory adverts

Outdoor advertisers are looking to trump online and television advertising by influencing consumers with holographic video, sound, mood lighting and smells. Together, these elements could multiply adverts’ impact, extending the amount of time consumers recollect it.

Phones that talk to adverts

The proliferation of mid field communication (MFC) in phones, such as the iPhone 9, will enable devices to communicate with digital out of home displays. With Personal Preference Profiles (PPPs) 50 times more in-depth than your Facebook profile, linked to these phones, consumers will see themselves featured in adverts wearing the clothes advertised.

HD vending machines

Traditional vending machines have come a long way. Sapiient Interactive's Coke vending machine, called uVend, replaces the standard front of a vending machine with a 46" LCD touch screen rich with HD video, bluetooth and flash motion graphics. Consumers can order a Coke, download music, ringtones and wallpaper for their phones.

This concept will be taken to its extreme in the future, with vending machines featuring haptic controllers. This tactile feedback technology takes advantage of a user's sense of touch by applying forces so consumers can feel the product before buying it. In addition to haptic technology, HD vending machines will also use gesture controlled screens to order various products, while 3D printing technology will make the item for you in 30 seconds.

Wearable computers

"Wearable computers", a technology being developed by MIT will be built into clothes linked to glasses with video cameras.

Through miniaturisation of components, systems will be designed that are wearable and nearly invisible. Individuals can move about and interact freely and network, sharing experiences with others. Users access the Remembrance Agent (RA) of a large communally based data source.

A Remembrance Agent is a programme which augments human memory by displaying a list of documents which might be relevant to the user's current context. It is an information retrieval system running wirelessly over the internet, continuously without user intervention and unobtrusively allowing a user to pursue or ignore the RA's suggestions as desired.

The result is a wearable computer that projects its display onto a nearby surface, or projects the image directly into the brain using the latest bionic eye technology.

Cyberthink

Scientists are developing neural interfaces designed to not only increase the dynamic range of senses, but also to enhance memory and enable "cyberthink": an invisible communication with others.

This technology will create a two-way continuous transmission programme. It will be intrinsically linked to everyday human behaviour and our interaction with objects and each other – all being continually broadcast, monitored and modified.

Eventually, technology will enable us to manipulate not only external reality, the physical world, but also, 'ourselves'. Once networked the result will be a collective consciousness.

Scenarios

A day in the life

It is 2016 and everyone has a Personal Preference Profile (PPP), held in the cloud, but accessible to anyone and anything they choose.

John, who is the MD of a manufacturing company and a stay at home dad, gets out of bed at 7am and the motion sensor on his Personal Companion Device (a PCD makes a Smartphone look like a 1st generation PDA!) activates the touch screen computer at his kitchen work station, logging him in as fast as a light switch.

By the time he is out of the shower, his coffee is brewed just as he likes it - thanks to the preferences stored on his PPP (though without milk this month as he is on a diet and his PPP is helping him out with daily calorie control). He needs to contact Mike his chief sales manager so he says 'call Mike Jones' and instantly Mike pops up on the screen. John can see that Mike is at junction 7, route 324, and so is well on his way to meet the client at 8am. Mike has happily left his location on his PPP open to John and his other team members between 7am and 6pm on weekdays, so that they always know where he is on his sales route. It's always good to know when not to call if his location shows he's in a client meeting.

But right now Mike is in the car and opts to talk to John. 'Hi John, I'm glad you called. I just saw in the FT that our client has posted a double figure profit and is planning expansion... '.

Mike's PPP knows what articles he would like to read and sends news as well as real time traffic updates and yesterday's football highlights to his windscreen every time he's stopped in traffic. Mike loves the 30 seconds he gets stuck at the lights! He doesn't mind being in the car so much now because he can stay entertained and informed throughout his journey; it gives him the edge in meetings. The content on his windscreen is sponsored by Starbucks in the morning, IBM in the afternoon and Heineken in the evening. Mike can see the young driver stopped at the lights beside him has Facebook up on her windscreen, sponsored by Virgin Atlantic. She must travel a lot he thinks to himself.

Back at the house, John sees on his screen that the kids are registered safely in school and Susan, his wife, is stuck on the subway ...again! 'Call Suz' he says and she pops up on his screen. 'Train stopped again sweetheart?'. Susan appears on screen, 'nothing new there!' she says while idly watching an ad on the window of her stopped carriage. 'I look good in that dress' she thinks as she sees herself appear wearing it in the ad - she'd finally got around to uploading her body scan to her PPP last Saturday.

She quickly holds her PCD to the 'more info' mark and downloads details about nearest stores, remaining stock in her size and other similar dresses so that she can read it when she is not in such a rush. The train jerks onwards and she says 'gotta go John, just at my stop so see you later' and hangs up her PCD.

Her PPP automatically alerts her colleague that her ETA is 15 minutes later than expected, as she walks briskly through the station. Her PCD automatically pulls information from OOH on the way up the escalator activated by key words in her PPP. An ad for a men's watch logs in her birthday wish list inbox reminding her it's John's birthday in a week as she passes the digital Rolex board.

She was emailing her friend Rebecca last night about going to a show on Wednesday evening so an offer for a deal on 'Jersey Boys' also pops into her coupon inbox on her device. She's fairly relaxed about her data, so has her PPP set to receive coupons based on her Facebook status updates, emails to friends and families and birthdays of friends and families. She decided to keep her food and diet information private so she didn't get the 3 for 1 offer on low fat yogurts at Sainsbury's that the lady in front of her on the escalator did.

Speaking of groceries, Susan remembered that Julie her youngest asked for avocados to be added to the family grocery preferences so she added that quickly on her PCD knowing that the weekly shop including all their usual items in the quantities they needed would be delivered to the back of the fridge that evening without any hassle for her. They should also take away the uneaten mincemeat and refund her the cost as their system got the preferences wrong on that one.

Unfortunately with John's PPP recognising that he is on a diet, the large tub of Haagen Daz that usually arrived would not be delivered this time. 'Not to worry' she thought, holding her PCD to a Cadburys ad at the top of the escalator 'I'm not on a diet and what he doesn't know won't hurt him'.

Susan and her device headed on quickly to meet her colleague; it was easier to run with no laptop, keys, Oyster Card, multiple mobile phones or folders, just a small bag with her PCD and her makeup.

The Digital Olympic Games in Rio, 2016

<http://bit.ly/RMfKO>



As I enter the stadium, my name appears on a large overhead screen. 'Welcome Peter Daniels, please check in at gate 12.' That overhead screen and others like it are sponsored by Nike. As I approach the gate, another display screen confirms my seats for the events I would be watching that day.

My smartphone holds all my tickets, the name of the hotel I'm staying at and my personal preference profile. Everything I might need to know about my day at the Olympics is on a Google interface, similar to my Google top page. All it ever takes is one click to find a map, a restaurant or my friends' location in the Olympic village. My phone will also automatically download the highlights from the events I attend and send the videos to my Facebook status page so my friends can see what I have experienced during my day at the Olympics. I know many of them are jealous that I got tickets to the 100m freestyle finals.

My phone directs me to my seat. On the way, I notice cameras overhead watching everyone that passes through. Security is very tight. A hologram display gestures towards the entrance to the seating area and warns me to keep my personal possessions with me at all times. The hologram is wearing a cool outfit with a large IBM logo on the front and back.

Once seated, I see a screen in the back of the chair in front of me. Enjoy the events. If you need any information, use the app on your phone. This message is also sponsored by Google. Following that message, a mini documentary sponsored by Nokia tells me about the athletes that are about to perform. I can pick the content on the touch screen that I want to watch and also download any of it to my mobile phone. I choose to download a funny video of a pole vault gone wrong in the 'thrills and spills' section but I also have the choice of Olympic stats, news updates and Internet traffic reports.

The large overhead digital stadium screens broadcast the competitions and repeat the most exciting moments of athletic performance. During the breaks they turn into major advertising media.

Technology is playing a vital role in delivering the sights, sounds and excitement of the games, from the field of play to the spectators through large on-site video screens and audio systems. I just caught myself on one of the screens near me!

The athletes are tweeting their experiences from the side lines while spectators share their experiences in real-time, uploading photos and videos, documenting every Olympic second. I won't have to remember the experiences I'm having, they're all digitally stored. There's also a site for users to upload their own content, much like CNN's iReport community, which is hosting user-generated Olympic coverage. What is really amazing is the games coverage in close up 3D.

A tone on my screen alerts me to a message, Peter, your friends Tom and Liz have just arrived. They are in Zone 4, 35/36. Followed by 'Why not meet for coffee at Starbucks? 3 coffees for the price of 2 until 2pm'. A quick text and it's arranged.

On the way to lunch, I pass augmented reality displays that place me in the ad wearing different Nike clothes as I step into different areas of the screen. I can't help but stay and play for a short while.

The games are spectacular. I'm particularly impressed with the way technology is connecting me to the athletes and the spectators, not just in the stadium but to fans and related events around the world.

On the way out, my phone tells me the directions to the bus station and the time of the next bus. There is also a reminder that I reserved a table for dinner at the hotel. It's like having a personal assistant. 'Goodbye Peter. Hope you enjoyed your day.'



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Subway, Berlin – Concept

Overview

Wall AG, a German outdoor advertising firm, approached 3M|GTG with a hypothetical brief to transform a Berlin subway station using the latest Digital Out-Of-Home technology. The concept saw 3M|GTG take brand experiences to a new level with Minority Report style technology.

Rationale

The aim from both parties was to investigate how brands could interact with their target audiences more effectively and how brand communication in the transport segment of DOOH could look in the near future.

Subways provide a good test bed for 3M|GTG as they feature a light controlled environment and dwell time above that of a busy high street. This provides a chance to pilot the latest projection, motion tracking and architectural lighting technologies.

Solution

The concept developed involved a number of Digital Out-Of-Home technologies coming together to create a completely immersive brand experience. Passengers are captivated by a coherent brand arena when entering the station and interact with the brand as they move down the platform and wait for their train.

The scenario is highly flexible and truly context sensitive. Far beyond simple video playback and the in-elegant process of shutting off projections as a train enters. It's combines multiple interconnected input and output devices, all of which can be dynamically configured. This allows trains and passengers to be accurately tracked and messaging changed accordingly.

The system contains templates to accommodate existing standard format collateral as well as bespoke content that can take full advantage of the brandscape theatre. The content is displayed as a giant and seamless projection, running the length of the concourse on the side walls of the train station. It is supplemented by further projections on the surface of the platform itself. All the digital imagery on these surfaces gets extended into space by synchronised lighting, which floods the whole room. By responding to changes in the station like the arrival or departure of trains, the crowdedness of the platform etc and by changing the imagery in response, the whole installation reacts and becomes in tune with its environment. This responsive, immersive environment also maximises the opportunities for passengers actions to influenced by the messages as well.

Results

3M|GTG is currently working with Wall AG to find ways to roll out this full brand arena concept in subway stations. At present there are a number of organisations interested in the concept.



Bogner, Munich

Overview

Bogner is a high end fashion store which has 60 retail outlets across the world. It is owned by Willy Bogner, a former alpine ski racer, a world renowned extreme sports filmmaker and fashion designer. He tasked 3M|GTG to develop a point of sale medium for his international clothing stores that reflected the energy and dynamism of his fashion and films.

Rationale

Willy Bogner wanted his stores to stand out from the crowd. He wanted to differentiate through innovative, eye-catching window and in-store displays, yet be in keeping with the brand's premium sport image. The challenge was to find a solution, which respects the given clash of image formats: Fashion photography is best displayed in a portrait format, where the sports movies are always in landscape format.

Solution

3M|GTG's solution was a unique screen, developed specifically for the brand and to the clients' need to perfectly display two competing image formats. The simplest and most elegant solution was a display that turns from landscape to portrait format, allowing them to display each medium in the ideal perfect way.

3M|GTG discovered that the innovation of combining digital imagery with physical movement and synchronising the two enabled a whole new range of dynamic content design possibilities. For example: staging a snowboarder doing a 360° backflip by keeping the snowboarder stationary in the centre of the screen and turning the whole screen with the scenery in real time creates a truly captivating presentation. Developing this dynamic in the hardware as well as the content achieves maximum brand impact. Tangible media, which was previously thought of as a technique for user input, now becomes part of the output of a media installation, fascinating and captivating viewers.

Results

The number of people that stopped to watch the screen rotating increased two-fold when compared with a static LCD screen. Bogner hired a psychologist to find out why people stopped to watch the rotating screen. The results show that human beings are more attracted to physical movements. Once their attention is captured, the challenge is to keep them interested - so it is vital the content is engaging.



Burj Al Arab, Dubai

Overview

The Jumeirah Group tasked 3M|GTG to see if the firm could improve the customer experience for Burj Al Arab diners, quite a feat given the hotel is the world's first seven star complex. To do this, 3M|GTG created a unique brand experience for the hotel's Al Mahara restaurant. It re-designed and refurbished an outdated and badly functioning submarine simulator that transports diners to the restaurant in style.

Rationale

In 2006, 3M|GTG was asked by The Jumeirah Group to create an audio visual experience for hotel visitors that would engage and excite them. The aim was to add extra magic to the dining experience of the hotel's seafood restaurant.

Solution

Rather than just allowing diners to enjoy a simple ride, 3M|GTG wanted to give customers a sense of adventure and memorable experience. The existing submarine simulator system was technically outdated and badly functioning, reminding the passengers of an outdated and poorly designed amusement park attraction. 3M|GTG developed a holistic experience concept for the simulator system and replaced the existing control and media subsystems with leading-edge systems, providing the illusion of really travelling in a submarine towards the restaurant, creating the belief that the restaurant really was located at the bottom of the sea. The hydraulic platform moves the 10 person simulator, while seven digital panels act as portholes for the synchronised video. Additional screens at the waiting area even give passengers an 'embarkation' experience – building the fantasy of being involved in the docking procedure of the submarine before entering it.

Now dinners descend to the restaurant while being taken on a simulated audio and visual submarine voyage through the Persian Gulf, which provides a highly immersive experience.

Results

The simulator is a huge hit with diners – both young and old. The Jumeirah Group was also impressed, viewing it as one of the best Point-Of-Sale tools it has in the hotel. The installation still turns heads today and has opened the doors to several exciting prospects in the Middle East.



MetaTwist Tower, Munich – In construction

Overview

When Munich Airport wanted a striking, never seen before digital outdoor installation to encourage more media sales, it turned to 3M|GTG to captivate travellers' attention and transform the airport's environment.

Rationale

Munich Airport is responsible for its own media sales and was looking for innovative new ways to attract sales and differentiate its offering from other venues. It wanted a dramatic installation in a large empty space that was in keeping with the airport environment and one that would attract advertisers.

Solution

3M|GTG developed a unique tower of nine LED panels that can be used to create one large landscape panel (12m x 5m) or a folded panel to create three portrait panel. The three panels can also be rotated independently to create a dramatic effect. Content such as advertisements, news and information updates can easily be displayed in a stimulating and dramatic style. This technology is one of kind and it does not exist in any other country.

Results

The MetaTwist Tower is currently being manufactured and is due to be installed in Munich airport in April 2011.

Industry feedback has been very positive to date and Munich Airport has had numerous inquiries from advertisers that are interested in using the installation.



Sky TV Studio, Munich

Overview

Sky TV turned to 3M|GTG when it wanted to communicate its live sports broadcasts to viewers in a simple, yet stimulating way. To achieve this, 3M|GTG worked closely with Florian Wieder, the world famous set designer, and built one of the most modern TV studios in Europe within just two months.

Rationale

Sky came to 3M|GTG with a clear brief. Following the development of a new TV studio, Sky needed new media technologies to enable a highly dynamic and up-to-the-minute flexible studio environment for the reliable live production of its sport shows – in a dynamic and unique way. The objective was to capture the excitement of the live sports events, and bring them to life in the studio.

Solution

Working with the in-house team at Sky and with Florian Wieder, 3M|GTG designed an integrated media solution which brings the outside world into the studio. We developed a fully integrated system to route various content to several devices – all operated live and in real-time on set.

The system is not based on pre-rendered movie-clips – all content is rendered in real-time, embedding the up-to-the-minute messages in a virtual world of high broadcast quality. (Needless to say, that the virtual 3D world matches the shows' graphic design package).

This paradigm change, away from static movie-clips and towards real-time graphics allows the highest degree of flexibility for the editorial staff – enabling them the opportunity to react to up-to-the minute news and events. One of the main displays is a kinetic LED wall: The 32:8 widescreen wall consists of four separate elements which can be ordered in any assembly on an 18 metre slide, supporting the editorial content as well as unusual and creative camera perspectives. The flexible real-time content is tightly synchronized to the movement of the segments, enabling innovative effects.

A 'TwistTower' was also designed which consists of nine 52" LCD screens. Three screens on each level form the shape of a triangle and each layer can be rotated and synchronising with the content displayed on the screens. The momentum of movement is used to make thematic transitions clear and easily readable to the viewer.

Results

Due to the innovations, the new TV studio is stable and reliable, flexible and user-friendly. Feedback from the industry and internally has been very positive.



Wynn Hotel, Las Vegas

Overview

A Hollywood-style deal between Hotel magnate Steve Wynn and 3M|GTG CEO, Daniel Steinbichler led to the installation of a groundbreaking \$16 million sign for the Wynn Hotel, Las Vegas.

Rationale

In 2004, Daniel Steinbichler was walking down the Las Vegas strip and spotted the construction site for Steve Wynn's \$2.7 billion mega hotel, the Wynn. The proposed sign, which was illustrated on the construction site's hoarding, was a simple LED billboard. Something seen on several Las Vegas hotels. This inspired 3M|GTG's CEO to develop a concept for the Wynn that would become one of the most innovative digital signs in the world.

After several phone calls, Daniel managed to secure a meeting with the Vegas entrepreneur. He pitched a concept that would deliver standout messaging and engagement in the world's most competitive and cluttered signage area – Las Vegas. After 3M|GTG's two minute concept video ended, Steve Wynn turned to Daniel, saying he had to have the sign. He made it clear: the price was not an issue. In fact, it was not even discussed.

Solution

3M|GTG developed the largest LED sign on the strip but it included one crucial difference – movement. A sleeve, featuring the Wynn logo, moves vertically and interacts with the content on the LED display panel. Virtual golf balls “bounce” off the physical sleeve and roll up the LED panel. Characters onscreen move up and down the 40 foot sign, in sync with the mechanical sleeve.

One of the biggest challenges was the tight turnaround time. 3M|GTG and its partner, Yesco, had to design, manufacture and installing the sign within six weeks. This also included the digital animation for the LED.

Results

People do not just notice the sign. They stop, film it and upload the video to YouTube for thousands of others to enjoy. The installation is a huge talking point, helping the Wynn drive word-of-mouth marketing in an environment where it can be difficult to stand out.



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