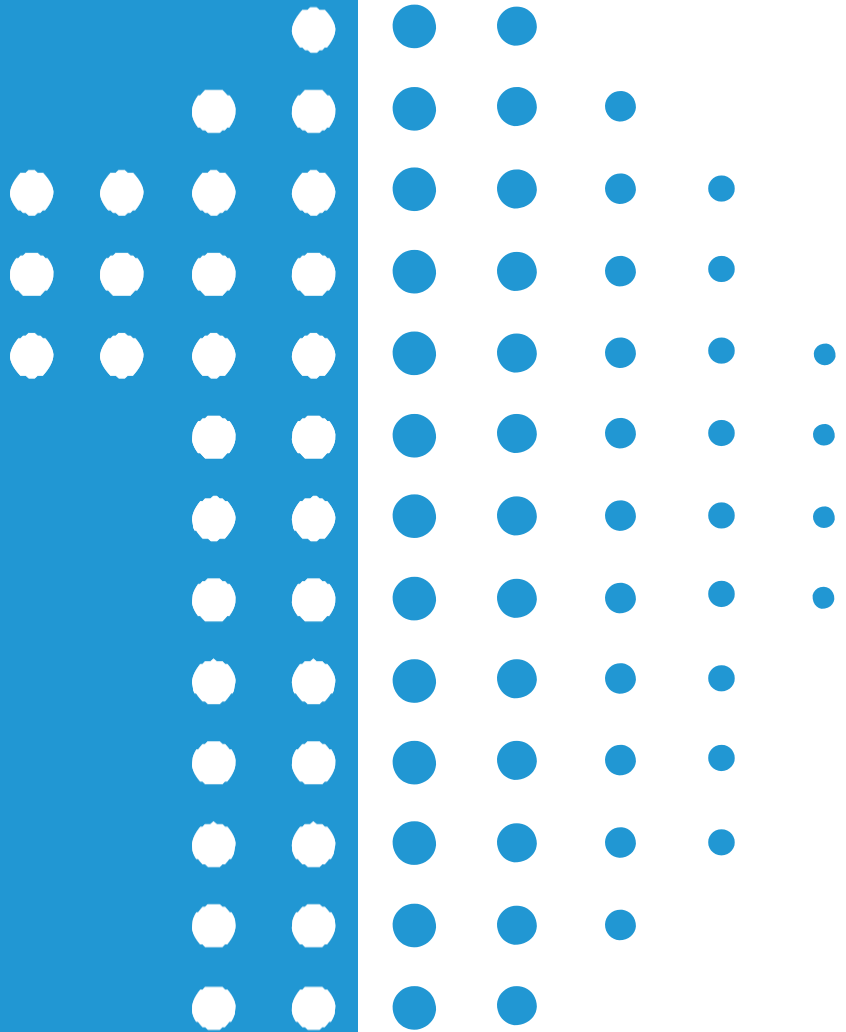


# LED SCREEN CONTENTS PRIMER

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## LED Digital Screens Advertising Contents Primer

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# ONE WORLD LED

## CONTENTS MANAGEMENT AND VIRTUAL COMMERCE

### DIGITAL CONTENTS MANAGEMENT AND COMMERCE

#### OVERVIEW

Digital LED screens are used dominantly in three different applications. These applications include:

1. Advertising and Commerce,
2. Sports and Entertainment
3. Signage, Messaging and Information

Each of these applications require different contents or file formats and different system for content management and control.

While the entertainment contents may best be delivered using multimedia file formats such as MP3, MP4 or AVI, the signage and information may best be supported using the TXT or JPG and, the advertising and commerce use and switch between any number of file format depending on the venue circumstances and the loop requirements. Additionally, the control systems that manipulate the sports scores and replays and the messaging and signage require only one-way communication while the Advertising and Commerce may best be managed incorporating multi-way communication with users, data providers and data managers.

This document covers some of the basic concepts for digital contents creation and digital display systems contents management. To learn more about advertising, One World LED recommends studying "Advertising and Sales Management", ISBN 81-89611-00-3, by Mukesh Trehan and Ranju Trehan. Latest information about LED screens architecture, design, technology, installation, support and advertising techniques can be found on One World LED website at the Products Downloads tab.

One World LED continues to lead the development of new technologies for digital outdoor advertising and virtual commerce. These developments and available related technologies are documented in a series of primers and handbooks available from on [ONEWORLDLED.COM](http://ONEWORLDLED.COM) and cover the entire spectrum from architecture, design, technology development and applications to the Adverpost users' guide.

# VIRTUAL COMMERCE

## DIGITAL CONTENTS CREATION AND MANAGEMENT

### INTRODUCTION

The goal of digital out-of-home (DOOH) advertising as a component of your advertising budget is to generate more impressions and views at a lower cost per millions. The goal of Virtual Commerce (V-Commerce) is to use DOOH screens to generate more sales per dollar of advertising.

With FMAS, Adverpost, IPAM and Dealcodes and numerous other related inventions V-Commerce is now a reality. This paper discusses the key points that helps you use your DOOH advertising resources to generate millions of dollars in sales and profits rather than just creating millions of impressions.

This paper covers many of the key issues to consider in integrating, communicating and presenting your message to your intended audience with DOOH. This may incorporate your digital marketing, advertising, commerce and contents management to achieve your business goals using state-of-the-art V-Commerce tools and strategies in communicating with you target market, selling your products and or services, supporting your clients and building customer loyalty.

### BACKGROUND

Today the digital screens are becoming an integral part of the modern landscape. The primary purpose of digital screens must serve the intended purpose. The intended purpose and utilization of digital screens are vastly different in the city centres, commercial districts, multi-purpose arenas, malls, building facades or lobbies, industrial parks, highways, roadsides, etc.

Traditionally, the primary purpose and application of these digital screens has been one of the three categories of advertising, entertainment or information. Recent One World inventions and innovations have added real-time commerce and transaction processing option to these traditional categories.

Traditional control systems to implement the intended applications for the screens have been specialized and very different in cost and features. However, Adverpost technology implemented using the latest internet technologies and screen control system based on open source software, called Adverclient allows multi-function application of DOOH screens.

## VIRTUAL COMMERCE & DIGITAL ADVERTISING

V-Commerce is based on a multi-party model, usually comprised of four parties. These parties include Data Provider (DP), Data Manager (DM), Data Displayer (DD) and Data User (DU). This in contrast with 2-party model used in E-Commerce (B2B, B2C and C2C) which addresses a subset of the required business functions in electronic transaction processing. These functions included branding, marketing, advertising, listing, selling, payment processing, delivery or fulfilment among others. V-Commerce integrates and automates many of these functions that now comprise disjoint functions addressed by various e-commerce solutions and makes it available to all businesses.

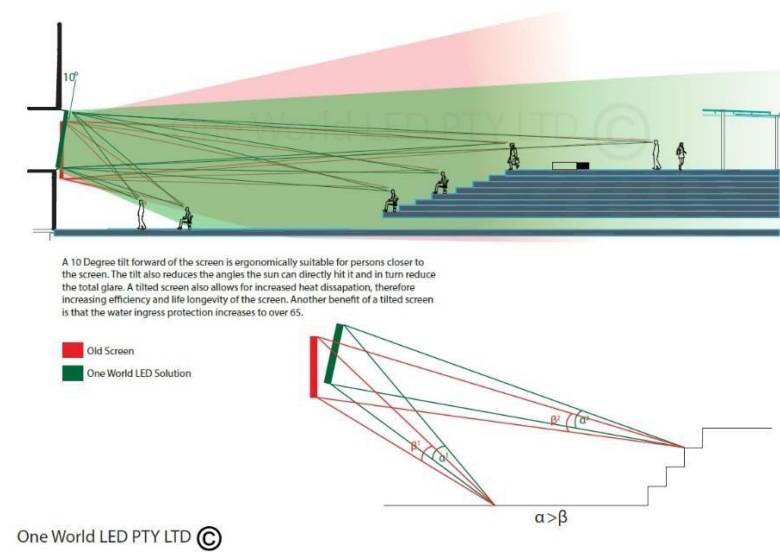
## VENUE & DISPLAY SELECTION – DELIVERY MEANS

The integrated digital advertising and V-Commerce success primarily depend on the selection of right venue and medium in the correct target market as well as delivery of the right message. Maximum impact and optimum results can only be achieved when best medium in target location can successfully engage the target audience. Targeting audience by location and then delivering the right message are pre-requisites of a successful campaign. Simply advertising in high traffic areas or having a nice advertising by themselves will not lead to optimum ROI in advertising. Media selection is a key component of traditional advertising as well as V-Commerce. For example, businesses use ooh digital advertising to brand, maintain competitive market-share and or increase sales.



**CAESARS PALACE MARQUEE DIGITAL LED SCREENS**

This digital advertising asset could have been much more effective with a simple 6 to 10-degree tilt of the screens to avoid the direct sunlight and deliver more vibrant images directly to the viewers' line of sight. The tilting of the screen is one method of optimizing the audio/visual impact also called beam-steering.



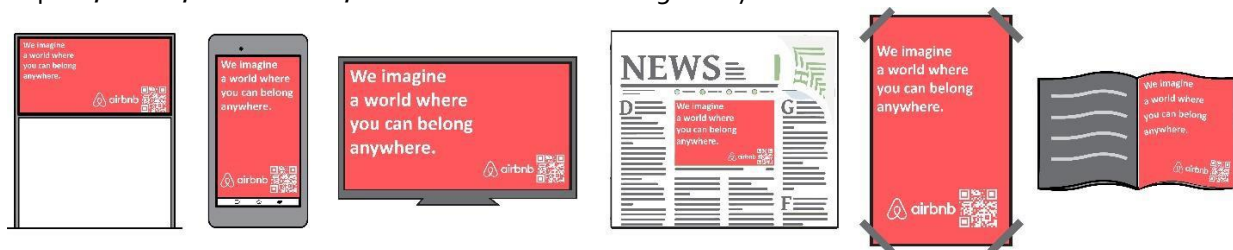
### Video/Audio Beam Steering Design for Maximum Impact

The beam-steering's goal is to deliver maximum impact in the optimum range of viewing or hearing to its audience. Note that the largest angle of visibility gives a more direct view.

## CONTENTS CREATION – DELIVERING MESSAGE

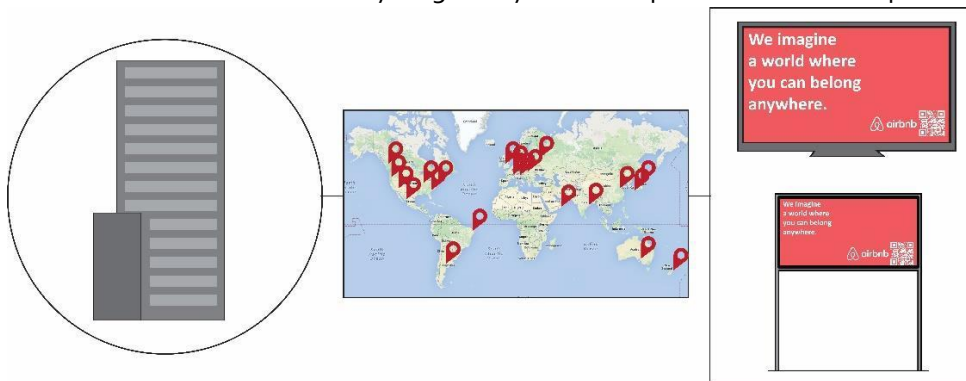
The integrated digital advertising contents creation is a key component of traditional advertising as well as V-Commerce. For example, businesses use DOOH advertising to market their brand and or products or services. These same businesses often use printed advertising flyers on a weekly or daily basis to inform their customers of the sales, deals and special offers. Following steps outline in order of priority how to integrate and maximize the potential impact of and the return on investment of DOOH.

1. **Integrated digital strategy** – same branding, adverts and overlays deal codes and links across all business communication methods including social media by E2V and V2E. Using Adverpost you can integrate and coordinate in real-time your advertising and marketing strategy across multiple platforms of print, media, social media, DOOH and E-commerce globally.



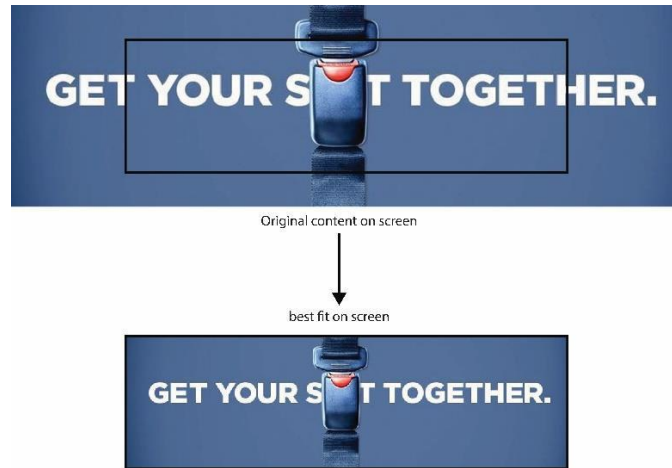
2. **Market Targeting** – use digital resources including maps to identify V-commerce and E-commerce target advertising display or virtual storefronts to maximize the revenue and profit potentials. Using private or public Adverpost strategy, you can broadcast and communicate your message along with other engaging and or profitable activities in social media, DOOH and e-commerce. Following are the key components of the market selection.

- a. **Market Location** – the most important factor for reaching the right audience. For example, Australian agricultural or mining companies selling most of their products to China need to focus their advertising in the target markets like Shanghai or Shenzhen while a Chinese company selling building material to America needs to advertise in developing markets and emerging countries like India and Brazil.
- b. **Screen Location** - the best advertising location or venue in the selected market is where the decision makers for the products travel. For example, the cosmetic products may best be advertised in the food and retail shops or mass transportation rather than football stadiums.
- c. **Type of screen** – interactivity is far more important than traffic numbers.
- d. **Type of Impressions** – while most expensive billboards are on busy highways and high rooftops of CBD buildings and are charged based on the traditional PPM (Portable People Meter) may not be relevant in today's mobile demographic. The smaller screens located in the grocery and retail stores or lobby of the buildings or café's may be offer a much better value. This previously was not accessible to media buyers globally but Adverpost has solved this problem.



3. **Interacting with audience** – fresh and engaging multimedia contents to entertain, inform or offer products and services
- a. **Screen geometry** – pixels, orientation and mode are some of the key factors that impact the quality and precision with which the contents generate impact. These factors are briefly detailed below.
    - i. **Pixels** – this is the resolution of screen. As the technology advances and the market penetration expands it is more likely that advertisers can find large enough screens to deliver the same contents with little or no modifications in various venues. However, for foreseeable future it is very important that you prototype your contents for the size of screen you intend to use (resolution in number of pixels wide and high). Note that Adverpost can automatically provide the best fit for the original file regardless of format to the resolution of LCD or LED screen. This advanced feature makes utilization of multiple targets of different size and type (LED & LCD) very possible.

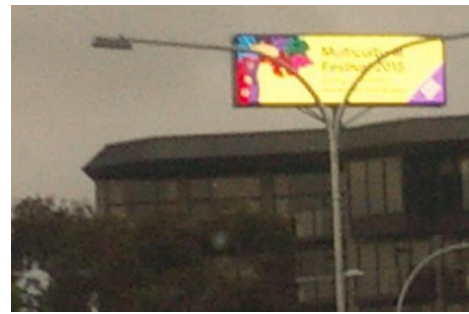




- ii. Orientation – this is vertical or horizontal mounting of the screen or light-facing.



A. Inadequate Brightness, Sun-facing LED



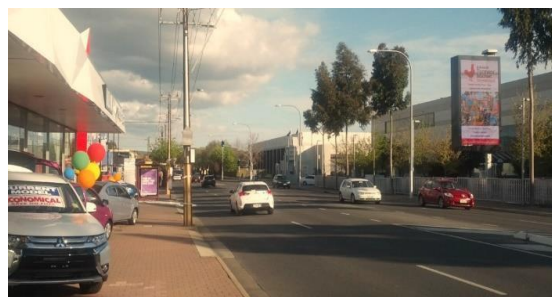
B. No Brightness Control Screen in Dusk

The examples above show poor impression effectiveness. The digital screen B is too bright as the brightness control is fighting the evening sun while the dusk background causes high contrast rendering images hard too view.

- iii. Mode – this refers to operating communication mode as unidirectional or bidirectional. That is the capability to update part (overlays) or all of the image in real-time.
- b. Flash frames – attention grabbing where permissible
  - c. Fresh Moving images & audio with current information in bright colours and big letters
  - d. Current contents (avoid outdated and stale contents and catch phrases)
  - e. Contrasts to Natural Environment to Highlight – Adverpost advanced features solve these issues.



A. Cluttered Location

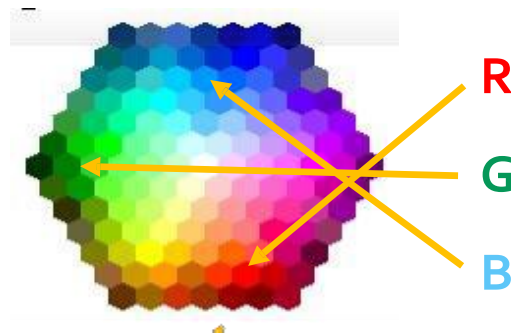


B. Balloons more effective than Faded LED Screen

- f. Deliver message in bright & bold colours versus passive background (with brightness intensity control)
  - i. There are 4 methods of brightness control
    1. LED Display Multifunction Control
    2. LED Control System Software Schedules
    3. LED Control System Light Sensing
    4. Image filtering for time of day & direction of sunlight (Scheduled)



- g. Use natural LED colors over composed colors (Ex. red or green instead of pink or turquoise that uses more of each LED instead of combined RGB)



The “on” LEDs create the best contrast against off background (black)

4. Use appropriate audio visual delivery medium at the optimum viewing distance

Big billboards visible to drivers may not be as effective as smaller showcase displays in train stations or public areas such as street sides and shop windows.

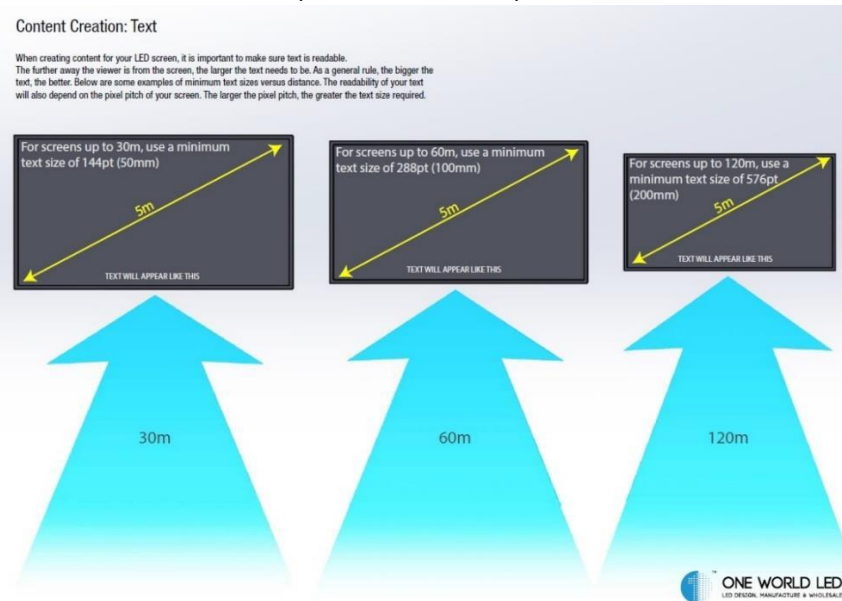
Full Colour Signs vs VMS Trailers – Trailers and most rentals VMS signs lack necessary functionality to provide colour images and brightness control. See images below.





Poor utilization of digital signage costs more and delivers less. Most temporary users of VMS trailers will be better off incorporating a fixed fill color led display into their existing signage for a lot less than it costs to rent a trailer few weeks per year.

5. Clear, concise, easy to spot and clear to understand message
  - a. Multiple frames to separate products or services involved (Lettuce and meat on different slides or videos rather than mixing vegetable and meat on the same food retail advert)
  - b. Key or Highlight of Offer
  - c. The Product or Service being offered
  - d. How to proceed to note, save coupon, reserve or buy



Use Proper Text Letter and Image Sizes for Intended Distances

6. Simple "Call to Action" and interaction modes and methods
  - a. Use pictures, figures or logos (a picture tells a thousand words) – Multimedia advantages over print media (audio to inform rather than words to be read)
  - b. Use multiple frames & settings to separate products or offers – digital advantages
7. Backgrounds and overlay designs for localized and relevant offers – *Adverpost and Local Deals*
8. Evaluate and adjust message based on generated results
9. Artwork design evaluation and review –
  - a. Use the same medium for proof as actual display (print for print, LCD for LCD matrix and LED for LED screens and do not proof the LED artwork and designs on the LCD screens like Macs).
  - b. Use scaling – a large LED screen can be used to display any scaled down version of actual display – however the pitch must also be emulated not just the height and width.
  - c. Simulate colours and lighting of actual environment
10. Use the same theme periodically to refresh interest – Mothers' Day, Christmas, Valentine's day, etc.

## COLOURS & EMOTIONS

Colour is a key component of provoking the right emotional response associated with the product or marketing strategy in advertising and communication with market. Following diagram depicts the various emotional response associated with various colours in advertising and product marketing.

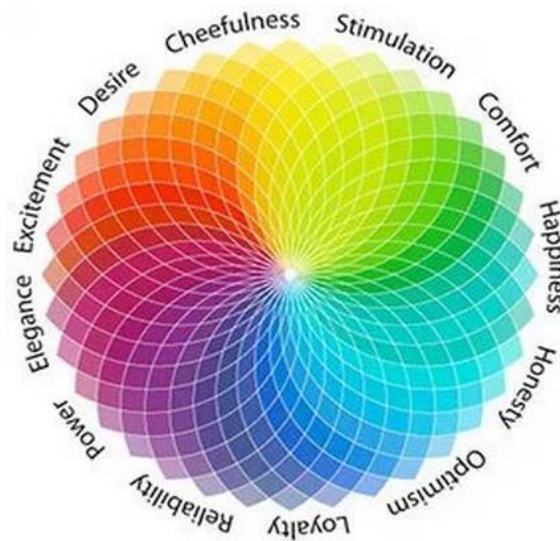


PHOTO: Persuasionmarketing.com.au

Various colours trigger different emotional response and invoking the desired emotional response is a key to success in communicating an offer to a potential client. These same concepts have similar effects in application when used in conjunction with social media marketing methods.



Colour Emotions Guide for Social Media (Source: Pinterest.com)

## LED & LCD CONTENT DESIGNS

Coke Adverts below can be used to prove that while an image looks better on LCD graphic screens it may not look and run as efficiently as its LED version. Slide A for LCD digital advertising is converted for One World LED V-commerce as Slide B. Both slides are shown below.



Slide A above and Slide B below show Coke advertising with different backgrounds for LCD and LED.



Turn the characters to bright colours and background to black for Maximum savings in power and contrast in outdoor Led advertising.

There are four major problems with white backgrounds of LED contents designs. These include: 1) inefficient power use, 2) night visibility nuisance or diminished visibility, 3) highlighting module colour mismatches (due to repaired and replaced modules having different light aging or brightness and, 4) maximizing the bad modules and overheated power supplies impact on images.

The above One World LED example addresses all these problems. Additionally, the efficient use of LED as explained above will extend the life-expectancy of the screen by reducing the component use and preventing heat build-up. See an example of white background LED screen advertising image below.



A. White background advert at night



B. Darker background advert at night

The example below highlights of the cover up of the bad modules by this technique. A. Screen with wrong background causing heat generated shutdowns and the right the Coke ad recovering from problems.



The Correct LED Coke Advertisement Could Cover the Flaws of the LED Screen

The black background in B slide for Coke advertising example shown above would clearly minimize the impact of this module and power supply shut downs due to heat.

## EFFECTIVE CONTENTS AND PRESENTATIONS

Effectiveness of the message can be quickly determined by the results or lack thereof. The message below obviously has not been effective in such desirable location.



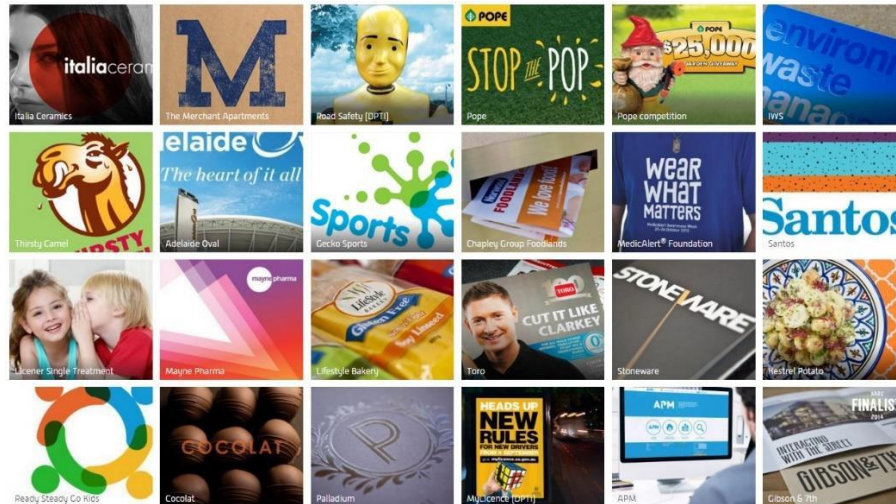
The digital advertising tools are clearly designed for use by digital advertising professionals. For that reason, a catchy website link with would have been much more effective than a phone number and would have implied all the information is available online for comparison and booking. A phone number while a good traditional contact method may not effectively encourage busy digital professionals to take the next step. Imagine replacing the number above with Adverpost.com!

Thinking digital and using digital online methods can create success. Digital displays like the one shown above should always have contents in a loop to attract interest and engage viewers with filler slides such as time and temperature, weather or other news, community service message and local SME promotions. The invitation to advertisers should simply be a common slide or video repeating with appropriate frequency to attract additional advertisers. The implication is, if it cannot sell itself, it probably cannot help others.

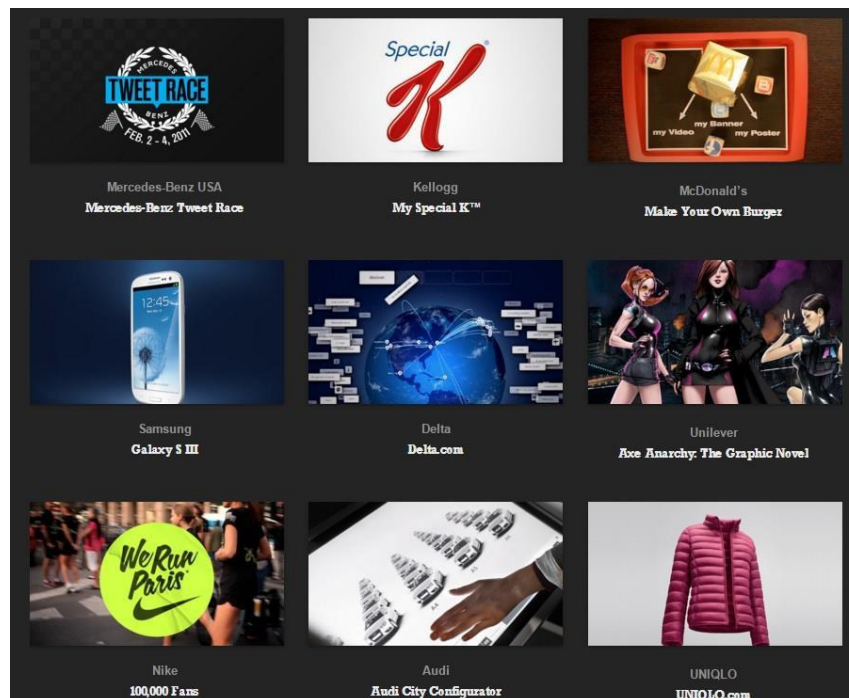
### Advertising Companies Creative Work Portfolio

Often the past creative work ratings and reputation of the agencies are based on the success of advertising campaigns on most dominant media such as TV or print (see example below). However, today's digital advertising offers opportunity, as discussed before to create contents for multiple media and in particular for outdoor advertising on LED and LCD screens.





Example of Creative Work Portfolio



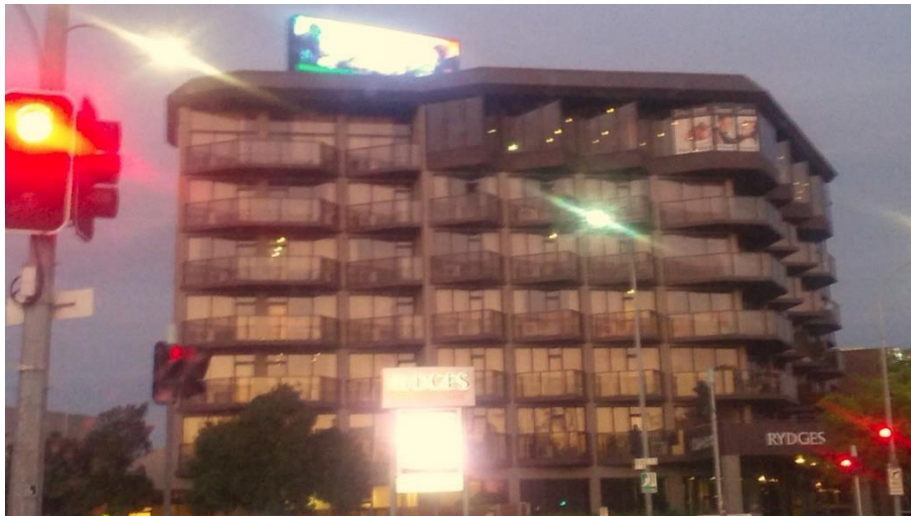
Another example of Creative Work Reference List

The creative work's measure of success has always been the impact on sales and revenue for the advertised product or service. However, other factors impact such as economy and market could not have been isolated from this evaluation. Now, with the V-commerce the actual impact of the advertising can be directly measured with up to the minute monitoring of the impact on the viewers and the market.



## Prime vs. Inappropriate and Undesirable Locations

The billboard locations in the past would command a premium for exotic locations and prime traffic locations primarily used for branding campaigns. Some of these locations are now foolishly converted to digital outdoor screens and are still commanding the similar rates. These locations are inappropriate or harmful to digital advertising campaigns primarily targeted for educational, informational and commercial purposes. These hard or impossible to view locations makes it also impossible to communicate with consumers and viewers for real-time impact.



Impossible to view locations benefit more the advertising parties than the advertiser



Easy to View with Concise Message Digital Outdoor Advertising

In contrast, the prime locations based on visibility in traffic continue to generate the outstanding result from the application of the digital LED screens. See one prominent example below.



Prime Locations Digital Screens – Las Vegas Boulevard



Wide-angle of View and High Resolution Portable Advertising for McDonalds and Goodlife.



Ultimate Impact Digital Advertising – Exceptional Use of Advanced Technology

### Digital Showcase Advertising

These special DOOH media are best for differentiating brands and products at the point of sale.



Examples of Point of Sale ONE World LED Show Cases in Advertising and V-Commerce

Adverpost display group feature provides a unique solution for optimum utilization of Digital Showcases in advertising and V-Commerce.

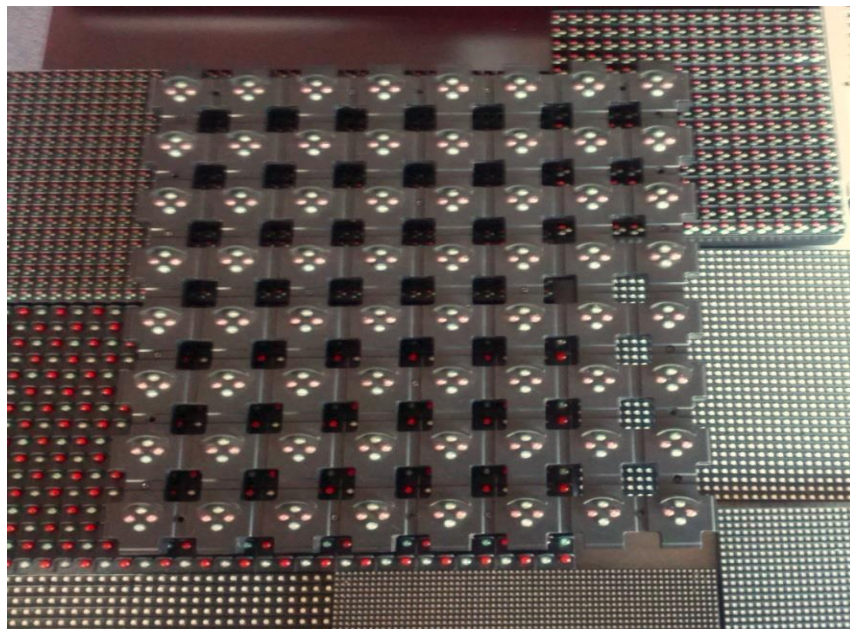


## LED Modules Specifications and Application

Wrong application of LED Technology can result in less than optimum return on the investment and opportunity to make an impact. One of the most common errors is the use of SMD instead of DIP in sun-facing locations. This error compounded with other mistakes previously discussed often result in wasteful advertising.



SMD in Sun-Facing Application – Washed-Out Contents



Various Outdoor LED Modules (top) for Outdoor vs. SMD (bottom)

Sun-facing and back to the sun LED screens require different maximum brightness and resolution specifications. The wrong module specification will result in washed out colours in rush hours thus reducing effectiveness of advertising impact.

## OTHER RESOURCES

Review other expert recommendations.

1. Refer to the following documents on OneWorldLED.com for additional information on LED screens architecture, design, structure, types and installations:
  - a. One World LED Handbook Version 4.0
  - b. One World LED Design Primer
  - c. One World LED Architecture Prime
  - d. One World LED Structure and Installation Handbook
  - e. One World LED Adverpost Users Guide
2. The 4 most common digital signage content mistakes (and how to fix them)
  - a. <http://www.digitalsignagetoday.com/blogs/the4mostcommondigitalsignagecontentmistakesandhowtofixthem/>
3. The 7 deadly sins of digital signage content: What you 're getting wrong
  - a. <http://www.digitalsignagetoday.com/blogs/the7deadlysinsofdigitalsignagecontentwhatyouregettingwrong/>
4. Outdoor advertising companies
  - a. <https://www.google.com.au/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=outdoor+advertising+companies>
  - b.
5. Creative design companies
  - a. <https://www.google.com.au/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=advertising+agencies>
6. Media companies Online

See the link below,

<http://thenetworkchefs.com/2014/05/tips-for-improving-your-business-ads-on-facebook/>

for a brief overview and description of the colour emotion table shown in this document.

## Exhibits