

# Embrace the Power of Outdoor Digital Signage

High-bright digital outdoor displays provide new marketing and sales opportunities for Retail, Banking, Transportation, and QSR



# Contents

---

<b>High-bright Displays</b>	<b>3</b>
High-impact Messaging Both Indoors and Out	3
<b>High-potential Verticals and Use Cases</b>	<b>4</b>
Quick Service Restaurants (QSR)	5
Public Transportation	8
Branch Banking	11
Retail	14
<b>The Samsung Advantage</b>	<b>18</b>
<b>New Marketing and Sales Opportunities</b>	<b>18</b>

# High-bright Displays

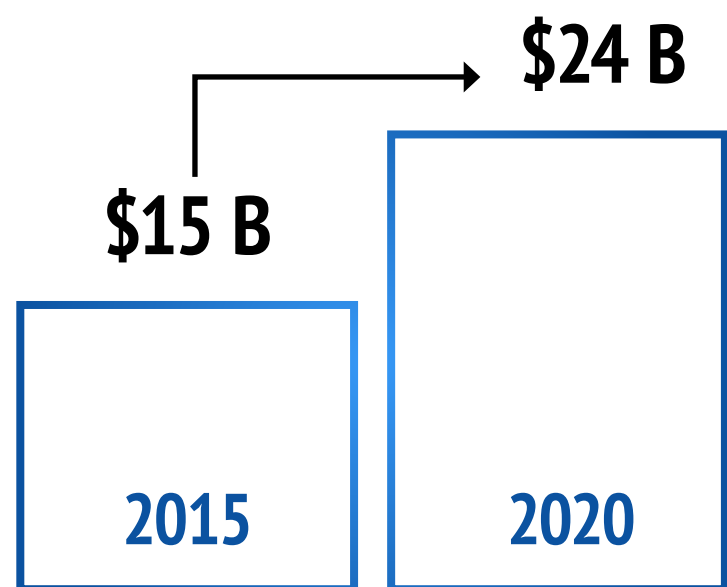
## High-impact Messaging Both Indoors and Out

Digital signage has become a compelling presence across today’s visual landscape. Shoppers in stores and restaurants, patients in waiting rooms, passengers in airport terminals, and even workers on factory floors have witnessed the attention-grabbing power of digitized displays, with an array of industries growing this market to \$15 billion in 2015.<sup>1</sup>

## Engineering Advances Lead to More Options

However, the bulk of digital signage adoption to date has focused on reaching primarily the indoor viewer. Technological barriers have prevented these displays from being used outdoors, where the elements can wreak havoc on vulnerable screens. Engineering advances and lower costs are now remedying this situation. And predictions of a \$24 billion market by 2020 are in part fueled by an expansion into outdoor use cases.<sup>2</sup>

**Outdoor expansion will contribute to the growth of the digitized display market**



## High-bright Technology Breaks Through Environmental Barriers

One of the most important advances in digital displays is “high-bright” technology—the combination of features that allow outdoor and semi-outdoor digital signage to be visible, readable, and compelling even under the most demanding environmental conditions.

<sup>1</sup> “Digital Signage Market by Type, Software, Services, by Application and Geography—Global Forecast to 2020,” MarketsandMarkets, 2016.

<sup>2</sup> Ibid.

Whether it's in bright sunshine (which can quickly overpower a typical display) or in a challenging climate (high humidity, freezing cold, rain downpours), high-bright display solutions now provide clear messaging. These panels can generate more than 2,500 nits (a unit of visible-light intensity), providing the color contrast and brightness to make signage “daylight readable.”

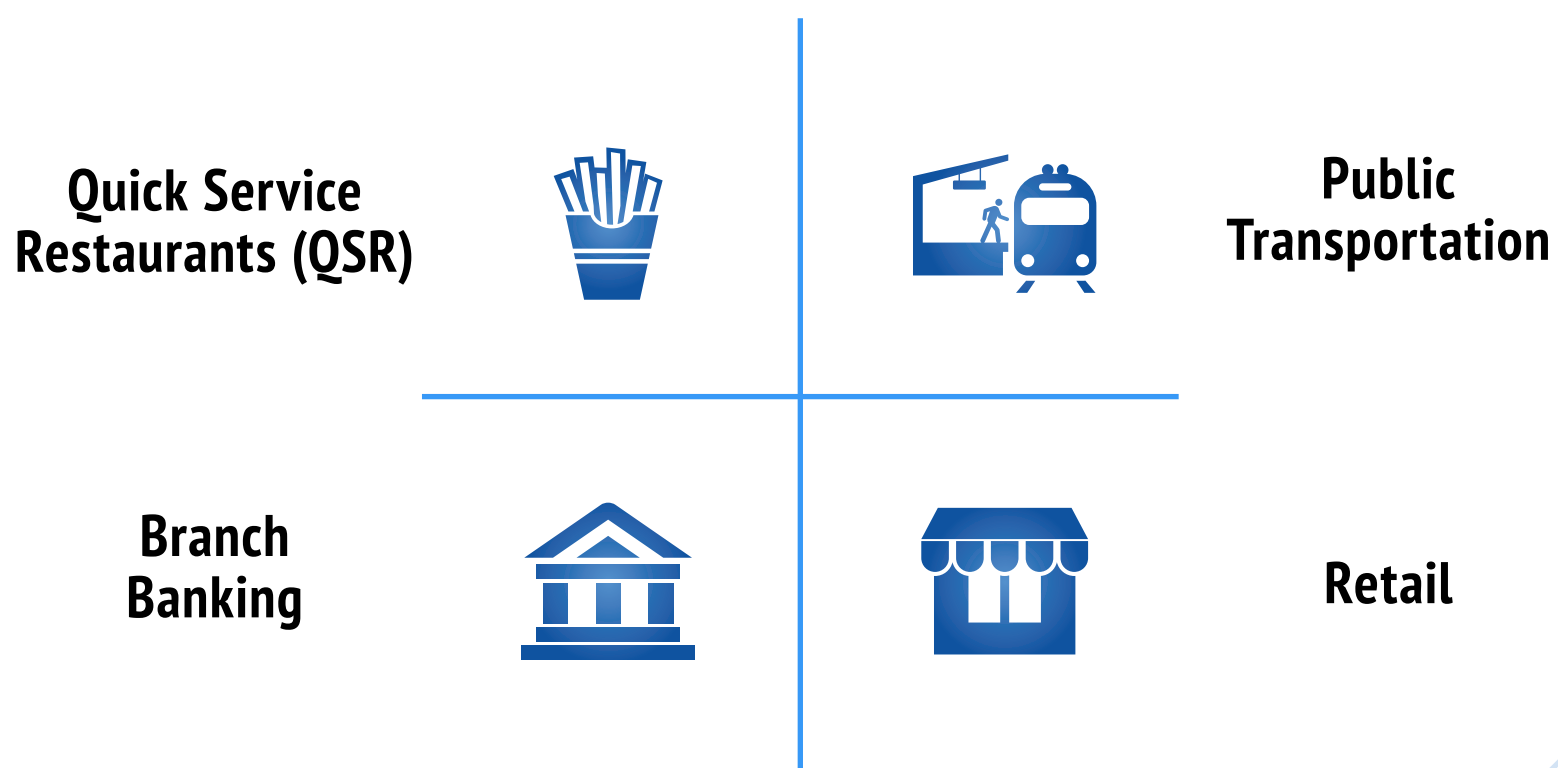
## Two Effective Options

Typically, high-bright displays are classified as either “outdoor” or “semi-outdoor” products. Outdoor displays not only have to deal with brightness challenges, they also have to be able to withstand the elements—which means they must be waterproof, not overheat, not freeze, and be designed to resist vandalism. Semi-outdoor displays are located inside a building so that level of environmental protection is unnecessary; however, they are typically exposed to—and must neutralize—direct sunlight and glare.

These advances in digital signage technology—along with more affordable price points—are attracting growing interest among businesses that had previously given up on deploying truly readable outdoor displays.

## High-potential Verticals and Use Cases

Four use cases offer particularly strong potential now that digital display technology has caught up with customer needs:





AT A GLANCE

# Quick Service Restaurants (QSR)

## INDUSTRY CHALLENGES



- Impatient customers
- Perception of unhealthy menus
- Need for competitive differentiation
- FDA caloric content requirements
- Languishing profit margins

## HIGH-BRIGHT DIGITAL DISPLAY BENEFITS



- Clear outdoor menu boards in any weather
- Easily list ingredients and allergy information
- Extend digital and mobile marketing
- Cost-effective FDA compliance
- Increase transactions per hour
- Shorter order processing time
- Added revenue per order
- Optimized inventory management

## WHAT TO LOOK FOR

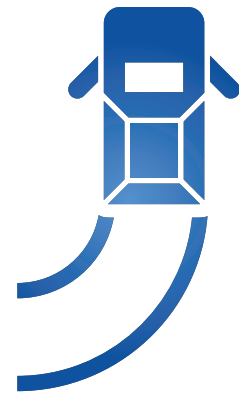


- High-bright level of outdoor visibility and clarity
- Simple installation and maintenance
- Protection from vandals and tampering
- Water- and dust-proof sealing
- Affordability

# Quick Service Restaurants (QSR)

The Quick Service Restaurant (QSR) sector, made up of fast food and fast casual restaurants, presents the most obvious use case for high-bright digital display solutions. Significantly more than half of QSR business takes place at the drive-through window, which translates into an extremely heavy dependence on outdoor menu boards.

**The drive-through ordering experience is a key point of interaction with customers and deserves a proper level of technological investment.**



Consider this:

- **Customers are Demanding.** Competition for QSR customers is intense, and those customers are demanding quick, easy service. For one thing, they want easy-to-read menus. High-bright solutions can deliver that clarity, even in the strongest sunshine or most dismal downpour.
- **Hard-dollar ROI is Imperative.** Drive-through difficulties can wreak havoc on performance metrics. Clear digital signage can deliver improved profitability and ROI in multiple ways:
  - » Increases transactions per hour by providing well-organized, quickly readable menu information
  - » Decreases order processing times by improving the accuracy of orders
  - » Increases dollars per order by leveraging the CMS to upsell, automatically suggesting additional, high-profit items in real time at the point of sale (“Would you like a donut with your coffee?”)
  - » Eliminates old-school printing costs and delays by discontinuing the old light box menu boards
  - » Better manages site-specific inventory by implementing on-the-spot discounts on slow-moving items and/or by quickly taking down information or promotions on items that are out of stock



- **Attention Can Be Personalized.** Customers can be engaged in new ways by extending the QSR's digital marketing efforts to the outdoor display and by injecting a mobility element when the time is right. For example, using beacon technology and powerful analytics capabilities, the QSR could serve up personalized menu board content based on the customer's past buying behavior.
- **Government Regulations are Easily Addressed.** Looming FDA requirements, legislating QSRs to provide detailed caloric content to customers by early 2017, can be complied with in an expeditious manner. Digital displays offer a cost-effective way to quickly add or edit this information as needed.
- **Healthy Options Can Be Showcased.** In fact, this technology makes it possible to address head-on one of the biggest challenges currently facing the QSR industry: The perception that QSR food offerings are unhealthy. In an age when consumer tastes are becoming progressively more health conscious, the ability to provide clear, readable, accurate information regarding calories, ingredients, and even potential allergy dangers positions the QSR as a partner—not a competitor—in healthy eating.

## High-bright digital display solutions offer the potential to:

**Increase  
profitability**



**Further leverage digital  
marketing programs**



**Improve customer service  
and satisfaction**





AT A GLANCE

# Public Transportation

## INDUSTRY CHALLENGES



Stressed passengers

A lack of revenue-generating opportunities

High manpower and printing costs

Swiftly-changing travel and transportation conditions to manage

## HIGH-BRIGHT DIGITAL DISPLAY BENEFITS



Clear information displays to assist travelers under any weather conditions

Dynamic, timely instructions in the event of changing travel conditions

Lower expense due to discontinued printing costs and more efficient use of personnel

New premium advertising revenue streams

Enhanced customer engagement using new digital technologies

## WHAT TO LOOK FOR



High-bright level of outdoor visibility and clarity

A range of display sizes to choose from

Systems integration capability

Protection from vandals and tampering

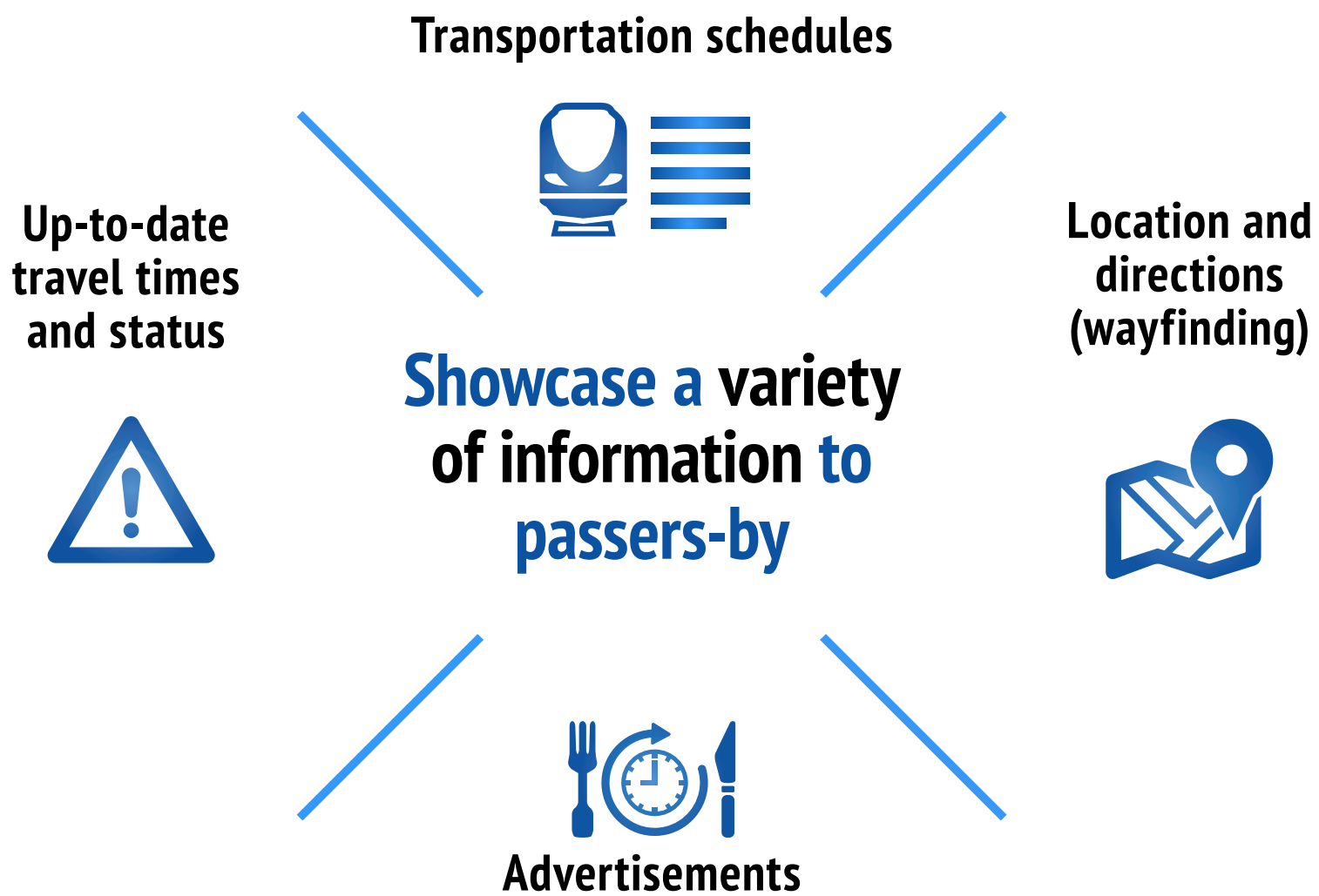
Water- and dust-proof sealing

Affordability



# Public Transportation

Whether they are located on a city sidewalk, in a bus shelter, or on a passenger train platform, outdoor digital signs will have to withstand all types of weather while communicating non-stop, valuable directions and data to travelers.



Traditional signage—including static print posters or even artwork that shifts on reels every few minutes—falls far short in providing the dynamic content that transportation hubs demand. In fact, the transportation sphere can present one of the most high-pressure applications of digital signage in today’s marketplace. In the transportation sector:

- **Customers are Rushing.** People are usually in a stressed state, hurriedly searching for important information in a crowded and/or confusing venue. High-bright digital signage ensures that departure and arrival times and locations are clearly communicated, even in the most inclement weather or under the most glaring sunshine.
- **Travel Conditions can Change Swiftly.** A bus can break down en route, delaying arrival. A train terminal is switched at the last minute. Construction ahead can force time-consuming pedestrian detours. The barely decipherable

broadcast announcement over speakers only confuses and stresses travelers more. New directions and information on digital signage, however, can be updated and disseminated immediately.

- **Updates Should be Instantaneous.** Depending upon the type of transportation it's supporting, signage can be deployed in far-flung locations across a city, a state, or a large terminal. Print signage requires an in-person, time-consuming visit for every update, while digital displays can be updated remotely—saving time, money, and manpower.
- **Unique Content Increases Engagement.** Digitized signage presents a raft of additional traveler engagement opportunities. Wayfinding becomes significantly more effective and user friendly with touch integration. Transport information and promotional messages become especially relevant when dayparting is possible, i.e., unique content programming based on the time of day. And the underlying high-bright display technology ensures that all of this is readable and accessible on a 24/7 basis, no matter how challenging the weather conditions may be.

Revenue generation possibilities also exist:

- **Captive audiences.** Digital signage in transportation locations enjoys a captive audience ripe for clear, colorful, compelling ads.
- **Integrated displays.** Digital displays that are integrated into other select systems can provide a more creative advertisement opportunity. For example, depending upon the time of day and current conditions, signage can tell waiting passengers that their train is due to arrive in 10 minutes, while the nearby coffee kiosk line is only taking five minutes to serve.



High-bright digital signage offers local governments, transportation authorities, and media companies:

- Enhanced revenue streams
- Quick, clear information dissemination to grateful travelers
- Cost-saving opportunities
- Real-time ways to manage traffic flow and avoid bottlenecks



AT A GLANCE

# Branch Banking

## INDUSTRY CHALLENGES



Reduced customer traffic at local branches, with fewer opportunities to sell more complex financial products

Increased competition from other banks, credit unions, and software-based FinTech companies

Need for local agility and responsiveness

Ongoing cost concerns

## HIGH-BRIGHT DIGITAL DISPLAY BENEFITS



Creative, state-of-the-art marketing messages

Brightness adaptive to ambient light conditions

Real-time promotional and informational updates based on local conditions

Reduced display and marketing costs over the long term

Potential personalized content with IoT integration

## WHAT TO LOOK FOR



Semi-outdoor digital display options

High-bright level of outdoor visibility and clarity

Adaptive brightness across full natural light spectrum

A range of display sizes

Turnkey solutions and support, including reputable integrator partnerships

Best-in-class warranty terms

Affordability

# Branch Banking

For a number of reasons, many bank customers and credit union members are drifting away from onsite banking. Alternative channels, such as online and mobile, save time and are increasingly being used to conduct simple transactions (deposits, transfers, balance checks, etc.). More ominously, Financial Technology (FinTech) companies have developed into direct competitors, using software to satisfy all of a client's financial needs. The results: onsite traffic is down in local branches, and banks are losing opportunities to sell more sophisticated financial products.

## Re-engage Customers

In this situation, high-bright digital displays can be utilized as a critical marketing component in the quest to re-engage with customers and reposition the bank branch as a desired place to visit and transact business:

- **Differentiate Yourself.** Today's banking services sector is a fiercely competitive environment that requires banks to actively differentiate themselves from each other. Harnessing modern technology in creative ways is a very high-profile way to do just that. And high-bright digital signage can make a strong statement in this regard.
- **Wow Customers.** Visualize digital window displays that not only project a powerful marketing message, but that can automatically adapt their brightness to current ambient light conditions and can be read in bright sunshine, under a cloudy sky, or at night. Or consider the impact of a video wall that stacks or groups individual digital screens into one giant synchronized display—all clearly visible to people walking or driving by. These are called semi-outdoor displays and are located indoors, but are purposely visible to outdoor viewers.
- **Entice Customers.** Clear, colorful window displays can grab customers' attention and entice them into the branch location. Indoor displays and available personnel can then sell product. The goal of state-of-the-art displays and visuals is the same as any effective POS effort: engage the customer's attention, pique their curiosity, and ready them for the pitch.
- **Agile Signage.** Banking institutions are also aware that, in order to boost market share, their branches need to become more agile when it comes to responding to local conditions. If a nearby rival lowers its interest rate on car loans, digital displays allow a bank to quickly counter. If buyer activity is



picking up in the local housing market, mortgage products can be promoted more strongly. With digital displays, information and promotional offers can be updated and revised in real time, either remotely or onsite.

- **Save Money and Time.** Profitability and expense have always been points of concern in the banking sector. The original pricing model for a digital signage solution was often too expensive for all but the largest players. However, the cost of technology components has decreased and price points have become significantly more affordable. New turnkey solutions are available, saving on time and customization fees. And old-style print display costs—such as artwork, printing, and the manpower needed to replace materials at all sites—now no longer apply.
- **Connect to Individuals.** The digital nature of high-bright displays offers the opportunity for banks and credit unions to plug directly into the Internet of Things (IoT) phenomenon by integrating with relevant sensors and systems. For example, beacon technology and a customer’s mobile gamified banking app could be leveraged to create personalized messaging in real time. This ability to produce and display content that speaks directly to a specific customer’s needs promises to transform the visitor’s banking experience.

## High-bright digital displays, properly designed and installed, can produce a healthy return on investment:

**Increased On-site Traffic**



**Timely Discounts & Promotions**



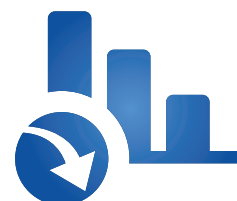
**Stronger Sales of Complex Products**



**More Engaged Customers**



**Reduced Long-term Display & Marketing Costs**





AT A GLANCE

## Retail

### INDUSTRY CHALLENGES



Competition against newer off-site channels (online, mobile)

Info-hungry, demanding shoppers

Worrisome profit margins

Need for higher level of agility and responsiveness at the local store level

### HIGH-BRIGHT DIGITAL DISPLAY BENEFITS



High-impact, visual means of marketing and promoting product

Flexibility to be positioned deeper in the store and still be clearly seen

Brightness adaptive to ambient light conditions

Real-time messaging adjustments based on local store conditions

Affordability and quick deployment

Potential integration with backend systems, cloud services, mobility efforts

### WHAT TO LOOK FOR



Semi-outdoor digital display options

High-bright level of outdoor visibility and clarity

Adaptive brightness across full natural light spectrum

A range of display sizes

Turnkey solutions and support, including reputable integrator partnerships

Best-in-class warranty terms

Affordability



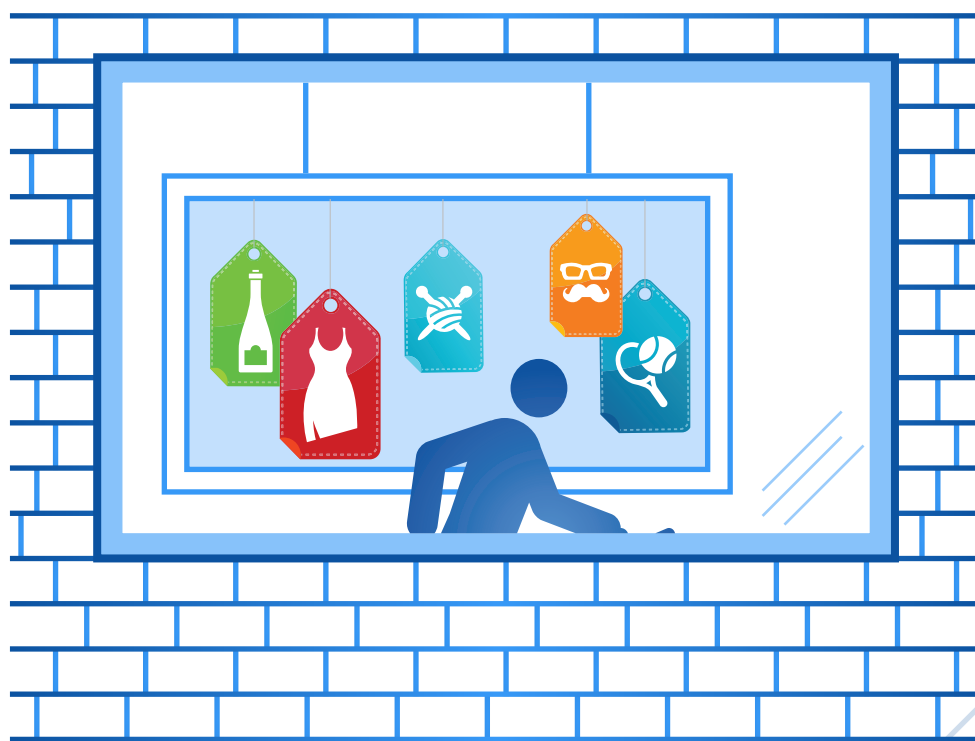
# Retail

Brick-and-mortar retailers find themselves facing many of the same basic challenges as local bankers. Onsite customer traffic has been reduced in large part because other channels—Web and mobile—are stepping up and offering a more satisfying shopping experience off site.

## Engage Creatively

Retailers need to fight back against this encroachment by engaging with shoppers in new and creative ways. Advances in technology offer a number of potential in-store enhancements, including adding tablets at the point of sale or instituting a convenient mobile payment option for impatient customers. Large, high-impact visuals can also add significant value. Visuals are especially powerful in a retail commerce setting, and digital displays are an especially effective delivery vehicle for these images and their accompanying information:

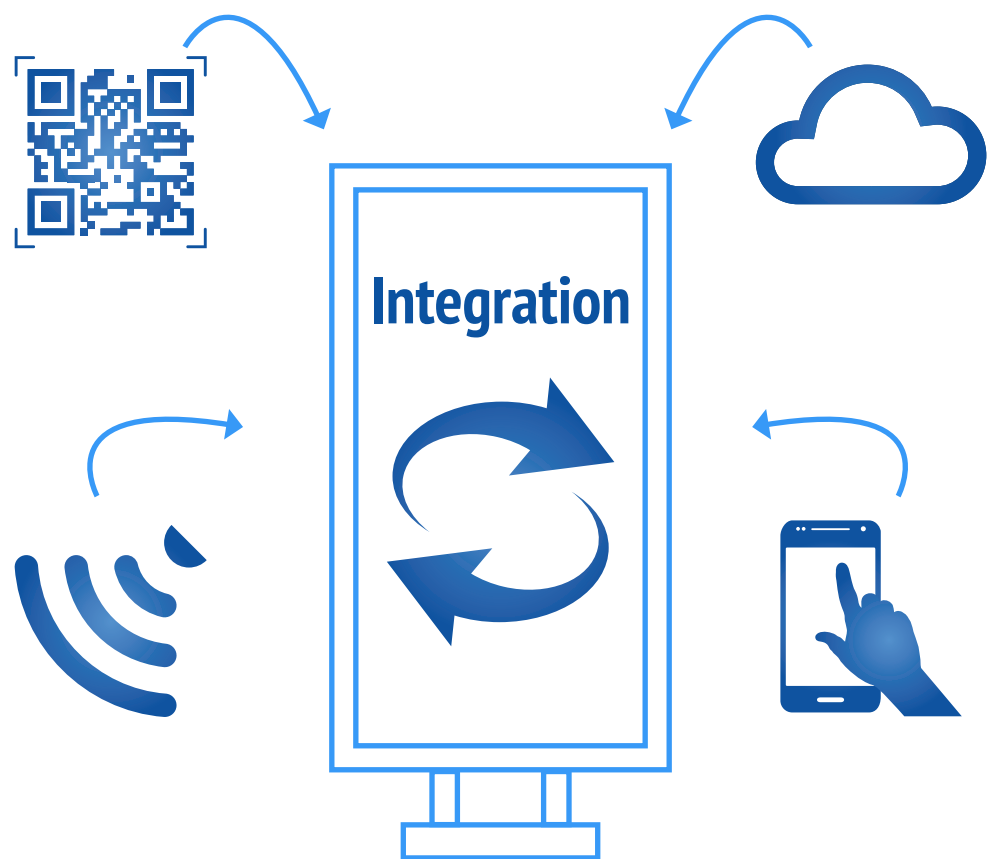
- **Cut Through Common Distractions.** In today's hyper-connected society, shoppers are in a constant state of discovery, searching for images and data from blogs, Web pages, social media, mobile applications, etc. Digital signage—whether it's a single screen or a synchronized grouping of multiple screens—stands out and gives the retailer an opportunity to pull customer attention away from other distractions. Digital displays can also offer the power of motion and interactivity, further engaging the customer and helping to make the sale.
- **Capture Their Attention Before They Enter.** Semi-outdoor, high-bright digital signage is especially appropriate in the retail setting. With no worries about glare and readability, these displays can be positioned right in the shop window or even be placed within 10 to 15 feet off the window front and still be clearly visible to pedestrians and drivers. Adaptive lighting also enables 24/7 readability, adjusting to the brightness or darkness of the surrounding environment and not overpowering viewers or consuming unnecessary levels of energy.



- **Provide Instant and Correct Store Information.** Customers want to be knowledgeable and make good purchase decisions. Digital content can meet that need by being changed out to provide up-to-the-minute guidance. For example, digital displays can respond in real time to individual store inventory levels and introduce a flash sale to move slow items, or advertise limited-time loyalty point opportunities to increase revenue per sale, or announce newly arrived merchandise to keep customers in stores longer. There is no need to wait days or weeks for static display materials to be printed up and shipped to stores.
- **Keep Signage Costs Low.** Worries about expense and profitability often kept retailers from seriously exploring semi-outdoor displays. Early digital signage was viewed as expensive to buy and extremely complex to implement. Fortunately, today's displays have become significantly more affordable. And turnkey versions, along with expert integrators and software and service providers, can make deployment quick and easy.

- **Endless Integration Options.**

As the retailer moves up the digital signage learning curve, integrating the display with relevant backend systems, cloud services, and mobile capabilities offers the potential for even richer customer interaction and engagement. Visualize the sign generating a unique QR code that can be scanned by the shopper, loading information into their phones for future reference. Or, as with beacon technology (and with the consumer's permission), the display could proactively push content, coupons, gamification points, etc., directly to the customer's mobile device.



# A Multitude of Benefits

High-bright digital signage can result in both hard-dollar and soft-dollar benefits to retailers, including:

- Pinpoint promotions, communicating the right message in the right location at the right time
- Increased in-store sales
- Higher in-store traffic levels
- Enhanced customer engagement and higher customer satisfaction
- Decreased expense with the elimination of printed signage
- Higher sales revenues per customer
- Competitive differentiation



# The Samsung Advantage

Any business that is thinking about implementing outdoor or semi-outdoor digital signage should have Samsung on its short list.

High-bright alternatives include:

**Samsung OHD Series.** These outdoor displays come in multiple sizes, including 24", 46" and 55". They have an IP56 protection rating, meaning they are sealed against water and dust. These displays provide 2,500-3,000 nit brightness. The displays arrive ready to mount in the customer's outdoor fixture and have ballistic glass and anti-vandal films.

Enclosure costs are minimal because the display is already protected from the elements and needs no extra AC investment or recurring maintenance. And circular polarizing technology eliminates issues in seeing the display with polarized sunglasses. This product series would be utilized in the QSR or public transportation situations described earlier.

**Samsung OMD-W Series.** These high-brightness displays are an excellent storefront window solution. Screen sizes include 24", 46", 55", and 75". These displays can stand alone or be grouped or stacked to create a video wall. This product is ideal for indoor window front use in the retail and branch banking sectors.

**Samsung OMD-K Series.** The OMD-K product is a kit version of the high-brightness OM displays. It has unfinished edges and is a component for another solution provider's custom enclosure. The enclosure must add environmental protection elements, such as heating, cooling, and waterproofing. These units are available in 46", 55", and 75".

All of Samsung's high-brightness displays include the Smart Signage Platform (SSP), which is an embedded system-on-chip processor. A separate PC or networked media player is therefore unnecessary, although media player inputs are included for customers who prefer to use them.

## New Marketing and Sales Opportunities

For businesses that need to compete more effectively and attract additional customers in new, creative ways, high-brightness digital signage can offer a significant competitive advantage. Whether the mission is to provide information,

promote a product, or entertain a viewer, these new signage options provide 24/7 clarity and readability—no matter what the environmental conditions may be at any point in time.

New advances in display technology not only have produced better product, they have also made high-bright offerings more affordable.

WHAT NEXT?



Learn more about Samsung's  
innovative digital signage solutions:

[samsung.com/outdoordisplays](https://samsung.com/outdoordisplays)

**SAMSUNG**



Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector, and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics, and emerging economies?



**Silicon Valley**

331 E. Evelyn Ave.,  
Suite 100  
Mountain View, CA 94041

Tel 650 475 4500  
Fax 650 475 1570

**San Antonio**

7550 West Interstate 10, Suite  
400  
San Antonio, TX 78229

Tel 210 348 1000  
Fax 210 348 1003

**London**

4 Grosvenor Gardens  
London SW1W 0DH

Tel +44 (0)20 7343 8383  
Fax +44 (0)20 7343 3343

877.GoFrost  
[myfrost@frost.com](mailto:myfrost@frost.com)  
[www.frost.com](http://www.frost.com)



For information regarding permission, write:

**Frost & Sullivan**

331 E. Evelyn Ave., Suite 100  
Mountain View, CA 94041



- Auckland
- Bahrain
- Bangkok
- Beijing
- Bengaluru
- Buenos Aires
- Cape
- Chennai
- Dammam
- Delhi
- Detroit
- Dubai
- Frankfurt
- Herzliya
- Houston
- Irvine
- Iskander Malaysia/Johor Bahru
- Istanbul
- Jakarta
- Kolkata
- Kotte Colombo
- Kuala Lumpur
- London
- Manhattan
- Miami
- Milan
- Moscow
- Mountain View
- Mumbai
- Oxford
- Paris
- Pune
- Rockville Centre
- San Antonio
- São Paulo
- Seoul
- Shanghai
- Shenzhen
- Singapore
- Sydney
- Taipei
- Tokyo
- Toronto
- Town
- Valbonne
- Warsaw