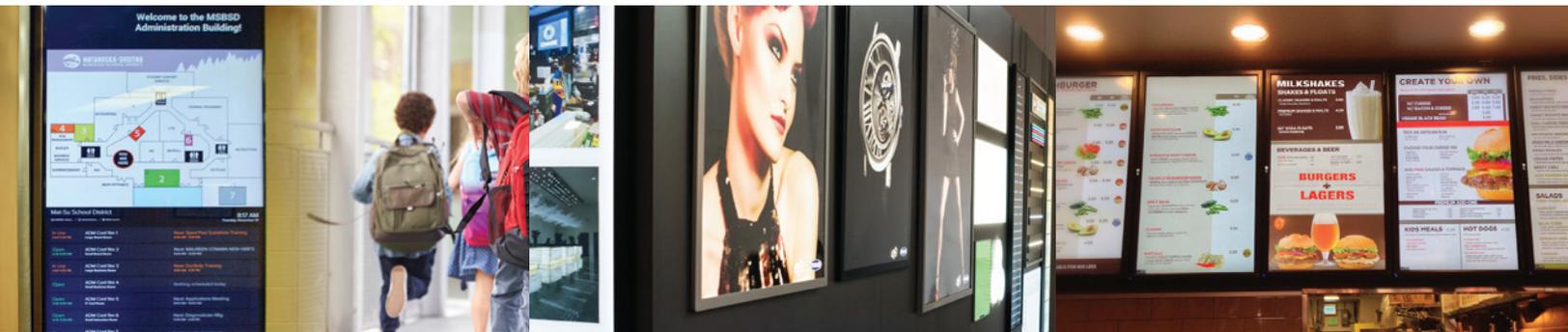


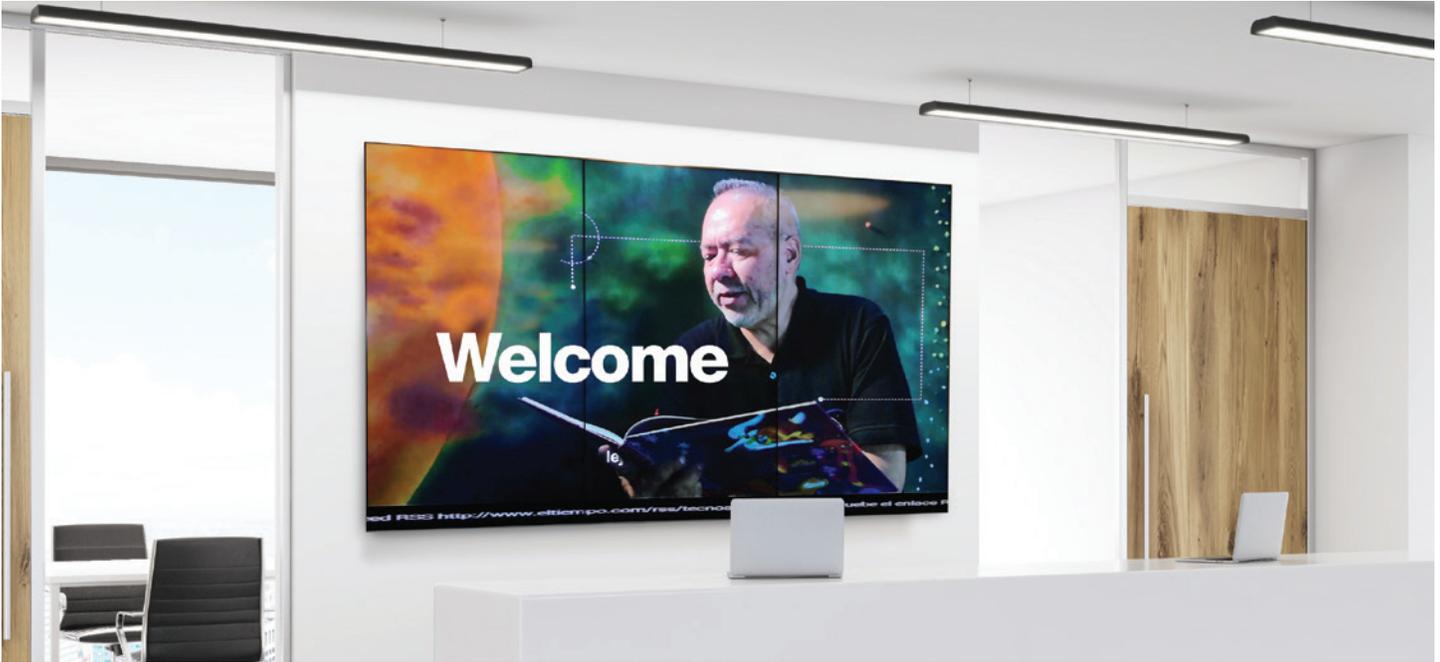


Implementing Digital Signage Solutions

Table of Contents

Overview.....	3
What is Digital Signage	3
Content is Key	4-5
System Integration, Maintenance and Management.....	6-7
Practical Application of Digital Signage	8
NovoDS™	9
NovoDS Studio.....	10
NovoDS Remote	10
Summary	10





Overview

The need for businesses to communicate clearly, effectively, and on a timely basis is critical for continued success in the marketplace. Their messages must be able to stand out among the multitude of messages we're bombarded with every day from multiple digital devices and other sources. In addition, because each environment is unique, the solution to deliver this messaging must possess great flexibility.

Digital signage has proven to be a strong tool for this purpose. They can display bright, vivid images that get noticed, create a call to action, and gain a positive engagement with your target audience. And with the proper control solution, messages and information can be easily updated with timely and relevant information.

This white paper will provide you with an understanding of how digital signs can be employed easily and effectively, with quality content that grabs attention, gets the message across and allows businesses to stand out from the competition. It will also highlight the features of Vivitek's NovoDS™ solution, and how it can make content management easy and effective.

What is Digital Signage?

Simply put, digital signage delivers content by combining display devices, such as digital video projectors or flat panel LCD/LED displays, with a communications management solution to deliver specific, customized messaging that can inform, engage, and entertain.

Digital signs offer major advantages over static signs as they are dynamic and possess the ability to deliver a broad range of content, including images, video, streaming media, web pages, and more. Properly employed, digital signs bring brands, products, and messages to life with eye-catching vividness. They can also be updated as often as necessary, insuring that the most relevant and timely information is always on display.

Providing endless options to communicate the right message at the right time, in the right place, to your target audience, digital signs are ideal for use in both external and internal environments.

Content is Key

While digital signs can be powerful communications tools, they are only as impactful as the content they display. To get the biggest benefit from a digital sign solution, it's important to have content that is dynamic, timely, and relevant to your target audience. To maximize your message, strong consideration should first be given to defining your target audience and the primary function of the digital sign.

For example, digital signs employed in corporate reception areas can display messages and images that greet visitors with your corporate/brand identity, as well as inform them of critical information, such as wayfinding, meeting schedules, and more. If the audience includes employees, posting recognition for accomplishments may also be appropriate. Retailers can employ digital signs that highlight products and offers, while quick service restaurants can use them to display menu options. In the classroom, digital signs can provide visual support to presenters in a dynamic, immersive fashion.





Consider Your Target Audience

Personalization leads to more engaged involvement. When building a presentation, make sure that the content you present is relatable, and meaningful, to your target audience. This can be accomplished by incorporating images that are relevant to the local area, as well local weather and RSS feeds that deliver local news and events. Live TV can also be displayed via HDMI, as well as interesting Twitter feeds.

Keeping Your Content Fresh

Your target audience will be more engaged if the content you provide is fresh, relevant, and interactive. This can be accomplished by updating the content manually, or by taking advantage of a wealth of online content from relevant websites, YouTube, Twitter and RSS Feeds, insuring that the content your target audience will experience will always be fresh, with little management required.

Customize Messages by Location

Additional consideration should be given to the location of each digital sign in order to best determine both the message content and length. Exterior signs intended to draw your audience inside should be brief and to the point, while digital signs that are used in reception areas, where the audience can view them for an extended time, can have more substance and include mixed media. Digital signs inside retail stores can provide more detail about products, while restaurants can employ them to highlight their menu options.

HTML5 Support

HTML5 technology is quickly becoming the go-to solution for creating highly dynamic, vivid content, including interactive content. Selecting a digital signage solution that supports HTML5 rendering gives you greatly expanded options. For example, you'll have the ability to display robust web pages on your digital displays, and your content providers can take advantage on HTML5 to create customized content that's fresh and exciting.

System Integration, Maintenance and Management

Depending on your needs, there are a few options in digital signage solutions and carefully selecting the one that's right for your business to maximize your return on investment.

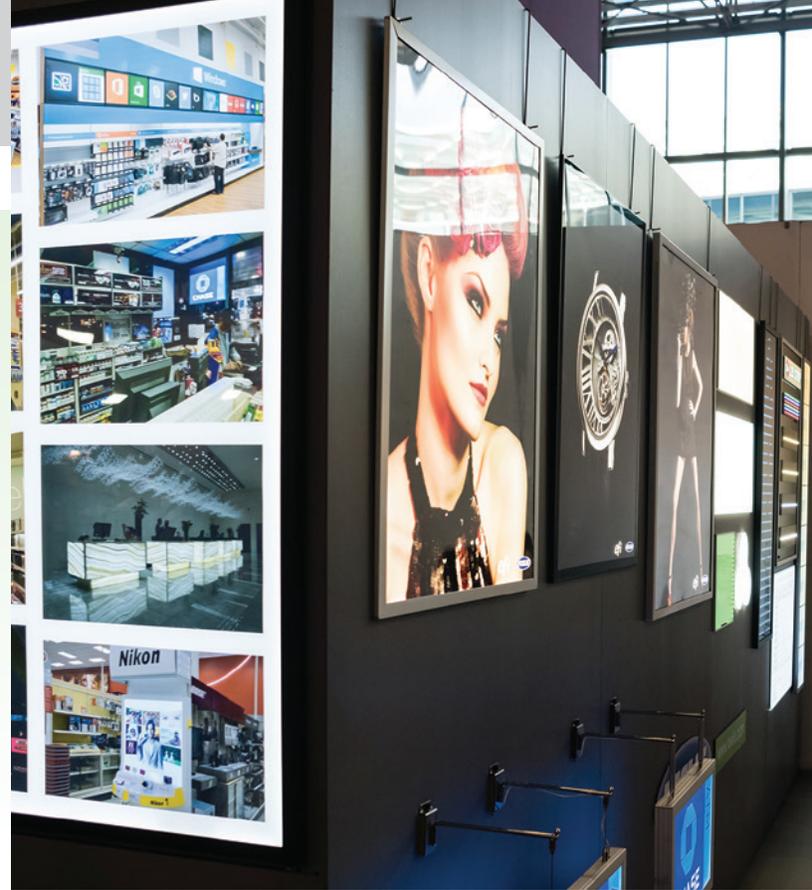
Basic USB Drive Solutions

The most basic solution employs an LCD display with a built-in media player that uses a USB drive to store and deliver content. A simple, all-in-one solution, this system is quick and easy to setup, and because it uses a USB drive, it is fairly easy to update. Simply load the content onto the USB drive and plug it into the display for playback.

Ease of use and low cost make USB drive solutions attractive for basic digital signage needs, especially where only one or two displays are needed. But they have limitations. For example, the content you choose to display is limited to a single zone, and you can only display image, movie and audio content. In addition, updates must be performed manually.

Networked Solutions

If your business requires multiple displays, you'll want to consider a networked digital signage solution. Networked systems use a digital signage media player



that can be controlled through an Intranet or Internet network, transmitting content to the AV displays through HDMI, DVI, DisplayPort or VGA connections. This enhanced flexibility allows you to display a variety of media, including dynamic live video, web pages, and RSS feeds.

Networked solutions offer a variety of important benefits. The content you wish to display can be published to the network from a single location, and advanced scheduling features allow you to schedule playback of content and direct it to specific displays throughout the network. You'll also have the benefit of centralized device management, allowing you monitor the status of your devices, configure device settings, and more. Networked solutions are also fully scalable, providing for future growth.

Some digital signage solutions also support various cloud storage solutions, such as Dropbox, Google Drive, or One Drive, simplifying the process of updating your digital signage by allowing you to easily copy media files to a Dropbox folder (as an example).



Software API for AV Integration

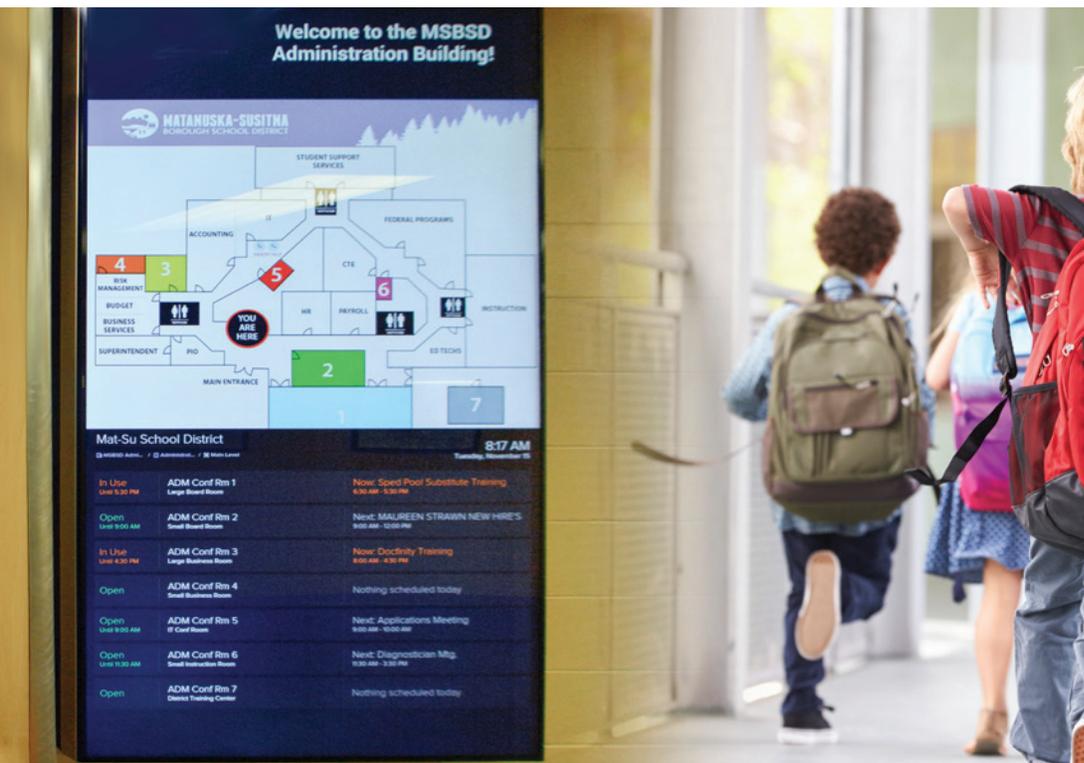
Software API capability will give you the opportunity to integrate the digital signage system with other systems. For example, this feature will allow you to display pricing changes dynamically, or tie into emergency monitoring systems to instantly display potential life saving messages.

Additional Options

When choosing a solution to control your networked digital signage, look for one that offers a variety of input/output options, such as USB, HDMI, audio, Memory Card, RJ45, and integrated RS232 control. You'll also want a solution that gives you the ability to update firmware.

The initial cost of a networked solution is more than a simple USB system, and, while intuitive solutions available don't require IT or design skills, there is a moderate level of complexity in the set up of the network. To avoid additional maintenance costs, look for a solution that doesn't charge annual fees or software subscription costs.

For larger installations, the benefits of a networked solution will provide you with much more creativity, flexibility, scalability, and greater return on investment.



Practical Application of Digital Signage

Digital signs are employed by a wide variety of businesses, institutions, and many other public installations that need to provide information on a timely basis.

Retailers can use digital signs to attract customers into their stores with compelling product images and exciting offers. Once inside, digital signs can be used to enhance the shopping experience by providing key product/selling features at point-of-purchase.

Quick Service Restaurants use digital signs to provide patrons with menu options in an exciting fashion.



Corporations can employ digital signs in a variety of ways - from an informative lobby sign to greet clients, wayfinding, and as visual support in conference rooms, which can increase engagement and collaboration.

Theaters and performing art centers use digital signs to create exciting marquees. Art and Exhibition Centers can use digital signs to provide patrons with a wealth of information that complements the exhibits, for a more immersive experience.

Municipal Offices can employ digital signs to inform local citizens about upcoming meetings and events.

Transportation Facilities, such as airports or train stations, can employ digital signs to deliver important information to travelers, such as departure and arrival times, whether they are coming or going. They can also be employed in waiting areas to broadcast news, weather, and other relevant information.

Hotels can use digital signs to entertain, educate, and welcome engagement. They can set a mood, define a space, or be employed as wayfinding signs.

Extended Care Facilities and Hospitals can employ digital signs in many ways, from providing staff with critical information and consultation support, or to provide visitors with wayfinding and to provide a relaxing environment.

vivitek NovoDS



NovoDS™ digital signage solution is an excellent choice to control your digital signage system. The solution includes a NovoDS or NovoDS4K hardware, NovoDS Studio Software, NovoDS Mobile and NovoDS Remote Apps.

NovoDS™ solutions allow you to manage AV digital sign devices centrally over wired and wireless networks with the ability to group multiple devices and synchronize playback. The system manager has access to real-time monitoring of the playback status of each device. It's easy to create schedules for individual or group devices, allowing you to set the frequency, duration, start/end dates, and more.

Hardware options include NovoDS, an easy-to-manage digital signage solution, and NovoDS4K, which is capable of displaying 3840x2160 content.

Key features of NovoDS™ include:

- Easy to use software – no programming skills required;
- A multitude of built-in and fully customizable templates;
- Broad support of on-line content, including Twitter, RSS, YouTube, and more;
- Centralized device management over Intranet and Internet;
- Open software API for AV system integration;
- Small form factor, powerful hardware players that support 4K video, HDMI Input, PoE, and more.

SIMPLE | SCALABLE | DIRECT



Easy to Use
Software



Small Yet
Powerful



Open API



Online Content
Widget



Centralized
Device
Management

NovoDS Studio

For editing playlists and overall digital signage management, NovoDS™ features NovoDS Studio. This simple, intuitive solution allows you to create dynamic messaging using including YouTube clips, Twitter feeds, websites, weather, QR codes, live video streaming, Google Calendar, MS One Drive/Dropbox documents, and RSS feeds. Sharp, high-resolution 4k images can also be displayed to deliver your message in breathtaking detail.

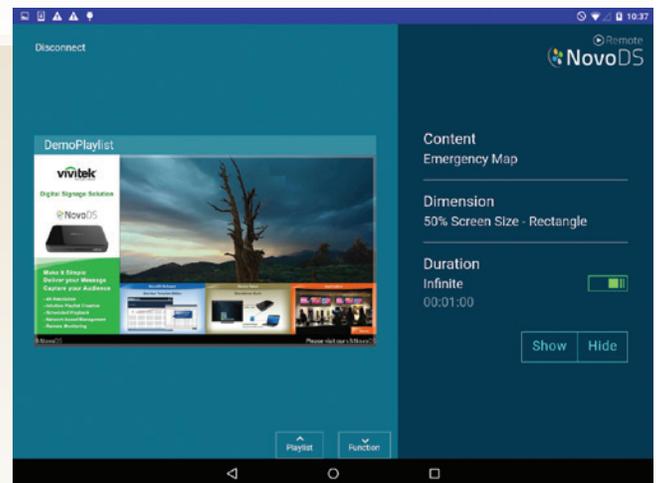
Once you decide on your content, you can begin to build total presentation. NovoDS™ provides 36 pre-configured templates, as well as a customizable templates, making it easy to produce professional presentations. It's quick and intuitive, and requires no real programming skills.

NovoDS Studio software is free of charge and comes with free lifetime software upgrades. NovoDS Studio software is compatible with Windows and Mac operating systems.

NovoDS Remote

The NovoDS Remote is a lightweight remote control app that connects to the NovoDS device. It allows users to implement RESTful API functions to control the device, receive snapshots, display overlay messages, and the ability to view available device software information.

NovoDS API includes a set of standardized HTTPS requests and responses to access and operate NovoDS devices. System integrators can use this API set to integrate the digital signage system with other systems, manage playlists and device settings, monitor device operations, and more. NovoDS API enables you to build a smart digital signage solution tailored to your exact needs.



Summary

Digital signs are dynamic communications tools that can deliver relevant, timely messaging and information to a targeted audience. They can be employed in many different ways and locations.

Managing digital sign devices is easy and intuitive with Vivitek's NovoDS™ solution. And the total cost of ownership is quite low, as the NovoDS solution doesn't require software licenses. In addition, all software upgrades are available free-of-charge.

Vivitek NovoDS™ helps you deliver your information everywhere you want it to be
To learn more, visit www.vivitekusa.com/category/NovoDS