Because it matters

An IT Managers Guide to choosing a screen mirroring system for collaboration spaces

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Introduction to Wireless Screen Mirroring Systems

According to Gartner Research, commercial wireless screen mirroring systems is one of the Top 10 Strategic Technologies to improve BYOD collaboration and presentations. Instead of passing around a cable, a wireless presentation system uses a simple button or app that enables your notebook to send your content to a shared projector, flat panel, or television. These systems represent a new infrastructure paradigm on how to route signals from multiple presenters to a shared display. This e-book will review the various elements that IT managers will need to consider when designing or updating collaboration spaces such as classrooms, board rooms, and huddle spaces.

What is a wireless presentation system - and why would I need one?

Unlike consumer wireless HDMI systems, commercial wireless presentation systems are designed to improve collaboration during meetings and enable multiple presenters to share ideas, concepts, and media without having to plug in a long cable. Because these are purpose-built for collaboration, a typical commercial-grade wireless presentation system will have these key elements:

1 Support for Multiple presenters

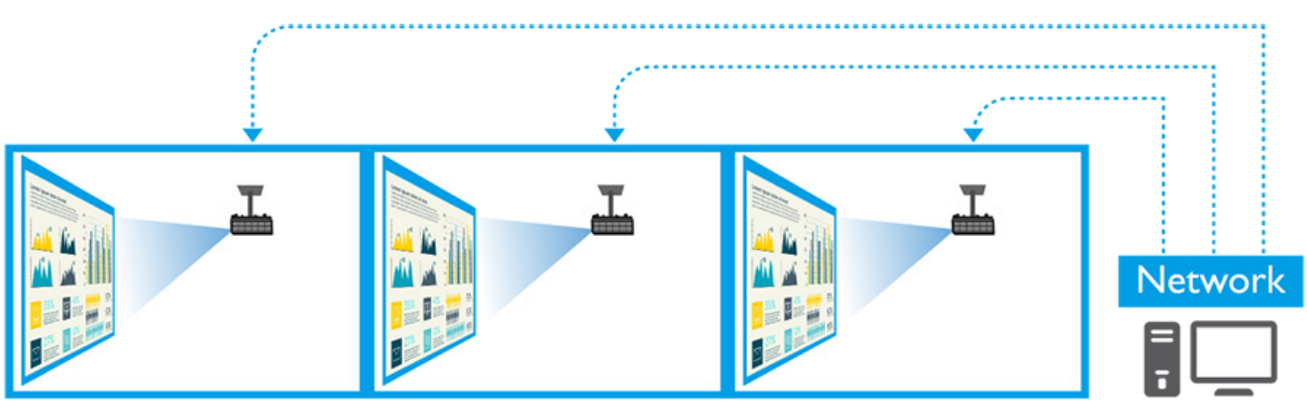
Most systems come with at least two buttons to enable collaboration out of the box and can support 16 or more different presenters.

2 Content Encryption

The market leaders in this category encrypt the content so that people outside the meeting room cannot wirelessly "listen in" or record the presentation.

3 Network Connection –

With a LAN connection, IT managers can access, configure, and update the settings of the wireless presentation system deployed in their rooms.



Why not use HDMI Cables?

Surprisingly, a commercial grade screen mirroring systems that wirelessly transmit HDMI signals in a meeting room can be less expensive than a simple HDMI cable connected to a wall-mounted flat panel or ceiling mounted projector.

In a commercial office environment, cables are nearly always run through walls, floors, and ceilings for safety and aesthetic reasons. This simple task means that the cable must be fire rated, and have sufficient length to go around obstacles like walls and floors to where they connect to the table.

Here is an example of what BenQ had spent for a basic installation of HDMI cables when we built our small and medium-sized conference rooms in 2018. This was a simple installation where the presenter connected to the HDMI cable coming from the floor to a ceiling-mounted projector.

Components	Cost
Long HDMI Cable with an appropriate fire rating	$200
Cable Management Insert (Cable Cuddy) for Table	$300
Labor to modify table for cable management system	$350
Labor to Install HDMI cable from ceiling to table	$250
Total Costs	$1100

Our wireless system enabled us to save money on materials and installation, kept our conference room table from having to be cut, and enabled us to have more than one presenter use the screen at the same time. These systems also are better for smaller, faster-growing companies who can easily move the system to another building if they expand.

What about using AppleTV or Chromecast as a screen mirroring system?

The various models of Chromecast and Apple TV devices were primarily designed as a consumer product to enable wireless streaming content such as movies in the home using built-in links to services such as iTunes and Netflix. Commercial wireless screen mirroring systems such as BenQ InstaShow are designed for classroom and meeting room use to enable multiple presenters to quickly connect their MacBook's, Windows PCs, Chromebooks, and other AV devices to a projector or display.

“Commercial wireless screen mirroring systems such as BenQ InstaShow are designed for classroom and meeting room use to enable multiple presenters to quickly connect their MacBook's, Windows PCs, Chromebooks, and other AV devices to a projector or display.”

The main difference between consumer and commercial screen mirroring is the ability to use all types of computers, mobile devices,

and AV devices. Consumer-based products like Apple TV work well with their proprietary ecosystems such as iOS, but don't work with Windows devices. Other platforms may share your information over the internet, making it a concern for IT managers who are trying to protect highly confidential information that could be damaging to the company if exposed. Commercial screen mirroring products typically have advanced levels of encryption and offer security white papers that detail their protection features.

"Commercial screen mirroring products typically have advanced levels of encryption and offer security white papers that detail their protection features."

Can a wireless screen mirroring system replace a traditional AV switcher?

Traditional AV switchers from Crestron, Extron, and AMX have been an essential part of meeting rooms since the 1990s. While the connectors and specifications have changed over the years, they still are primarily designed for one sole purpose – to manage signals from multiple sources to a shared projector or display. However, these systems often require expensive custom programming, cannot easily adapt to new interfaces such as USB-C and can be a challenge to connect to a smartphone or tablet.

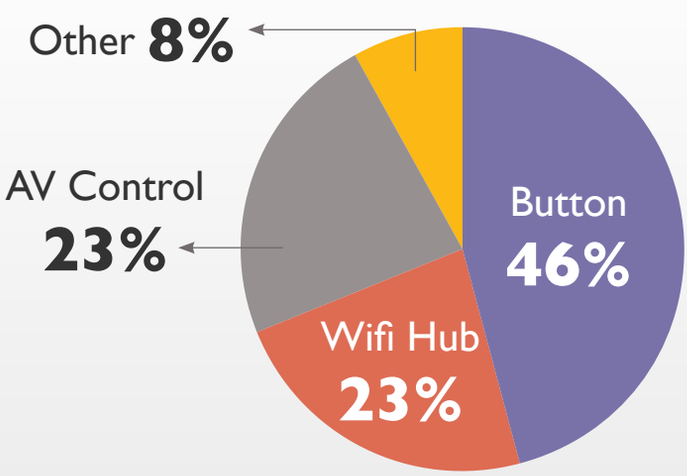
Modern wireless presentation systems offer the potential to replace hard-wired AV switchers by attaching a small receiver to the

shared display, and connecting devices to the display using button transmitters and standardized wireless protocols. Each receiver can connect up to 32 unique source devices that can easily be switched with a single tap – eliminating expensive control panels and the cost of running and hiding cables in a room. Now you can replace your old AV switch with a new wireless presentation system – and still connect to the existing AV devices you might have in your room.

What are the different types of wireless screen mirroring systems available today?

There are over 40 different brands of wireless presentation systems sold worldwide. However, according to Futuresource, the most popular brands of wireless presentation systems sold worldwide between $500 and $1000 are the Barco ClickShare, BenQ InstaShow, and Mersive Solstice. Each of these systems is used by major companies, have worldwide availability, and offer strong customer support infrastructures to ensure IT managers get the help they need – when they need it.

2018 Wireless Presentation by Type
North America



Wireless presentation systems typically use one of three ways to wirelessly connect to the shared display.

1

Buttons

These are the most popular systems –and are very simple to use. To connect to the projector, you simply plug in a button or "puck" to your notebook or device and tap it to start presenting. The button encrypts the signal and wirelessly sends it to a receiver or "host" attached to the display. The Barco ClickShare and BenQ InstaShow are popular models that use this approach. The buttons are generally large enough to be easily visible on a table – and hard to lose.

Integrated AV Control or Videoconferencing Systems

2

Many traditional AV control systems and proprietary video conferencing systems offer wireless connections to their infrastructure to enable presenters to wirelessly connect to their existing infrastructure. Systems like the Crestron AirMedia can be integrated into existing HDMI switchers and control panels to leverage existing systems.

3

WiFi Hub System

These systems typically use a proprietary app to enable a notebook or other device to connect and present to the display using the corporate WiFi network and a receiver attached to the display. Systems such as the Airtame don't require a button connected to the notebook but rely on the corporate WiFi network infrastructure to be robust enough to enable features such as smooth video frame rates.

What methods are used the most?

According to Futuresource, wireless presentation systems that used buttons were the most popular approach, followed by wireless presentation systems that integrated into AV control systems. WiFi Hubs were the least popular for the corporate market. If you want to learn more about how these types of systems compare, click here.

The differences among each Wireless System:

Type of Wireless System	Advantages	Disadvantages
Transmitter Buttons (BenQ InstaShow, Barco ClickShare)	Easy to use and Install Very secure w/ encryption No bandwidth or network required	Higher initial hardware cost than some WiFi hub systems
Integrated AV Control (Crestron AirMedia)	Easily integrates with existing AV control systems	More expensive than most systems, can require custom programming
WiFi Hub System (AirTame, Mersive, Via)	No transmitter buttons required	Extensive network configuration and bandwidth requirements needed for performance, potential security risks if not managed
Consumer Screen Mirroring (AirPlay, Miracast)	Less Expensive Standardized Protocol	May only work with one type of device, can be complicated to use, may expose content over the cloud

What are the most popular features available in a wireless presentation system?

High Resolution

For budget reports, calendars and schedules, the ability to read small text on a shared display is crucial to the collaborative process. Most commercial-grade wireless presentation systems will deliver 1080p resolution, while the more expensive versions can deliver 4K resolution.

Smooth Video

Companies rely on videos to effectively communicate their messages to their customers. Depending on the type and configuration of the wireless presentation system, it can be easy to be able to play videos over the system at frame rates up to 60 frames per second without jittering or frozen frames.

Multiple Screen (Split Screen) Collaboration

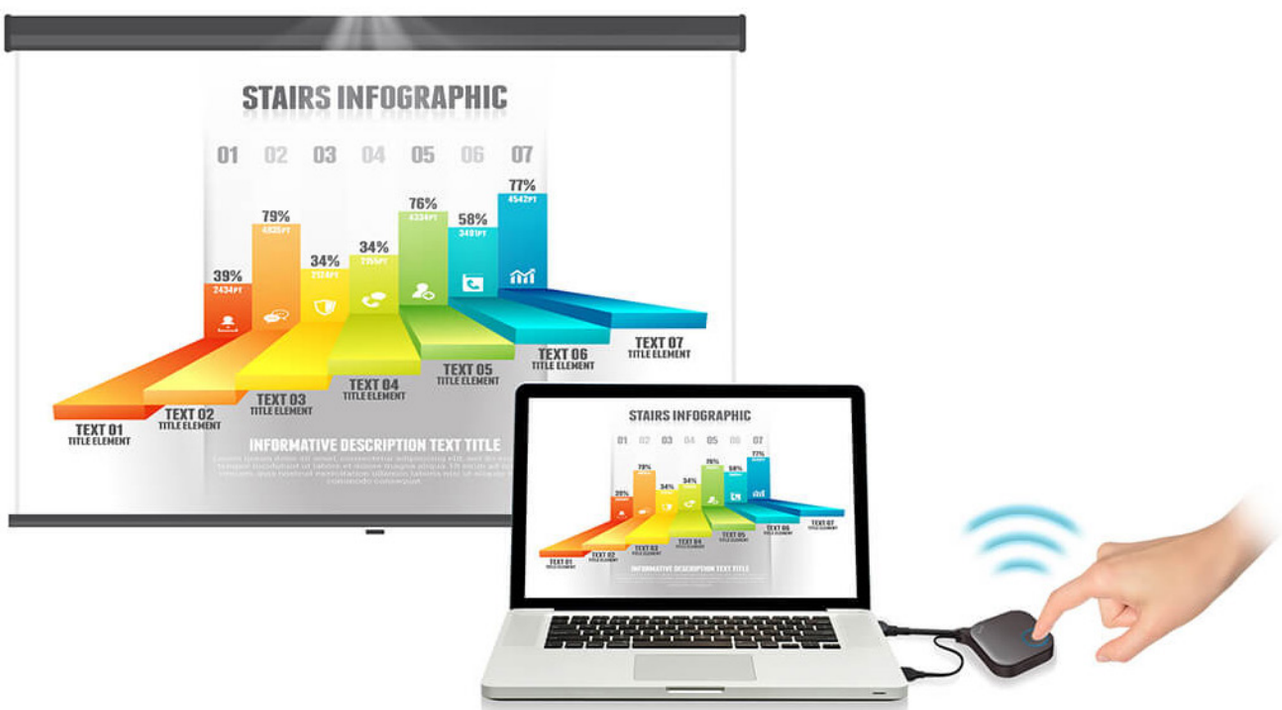
Since 2002, IT managers and corporate collaboration experts have been trying to improve team collaboration and brainstorming

by enabling multiple people to present their information at the same time. Many mid-range and higher-end wireless presentation systems enable you to display more than one image on the screen. The most popular models can provide either a split-screen with two presenters or support quad screens with four presenters. When combined with 4K resolution, this enables each presenter to have a high-resolution 1080p image that makes the details of a spreadsheet easy to read.

▲ Improve team collaboration and brainstorming by enabling multiple people to screen mirror

Touch Back

When connected to an interactive flat panel or projector, some screen mirroring systems have a touch back feature that can enable a presenter to annotate and control the presentation directly from the screen – while wirelessly saving the changes and notes on a Windows notebook.



▲ One button to start or stop presenting

Features available in a Wireless Presentation System:

Specification	Entry Level	High End	Comments
Maximum Resolution	720p	4K	Higher resolution is important in split-screen systems
Maximum # of sources (presenters)	8 presenters	Unlimited	Unlimited is dependent on network bandwidth
Maximum Video Frame Rates (with sound)	15-30 fps with a one-second delay	60 fps with no delay	
Proprietary App or Button	App	Button	Buttons are simpler to use and more popular in corporate meeting rooms
Network Configuration Settings Required	Yes	No	
Centralized Device Management	No	Yes	Some systems require annual subscriptions
Number of Screens Displayed at once	One	Unlimited	Two and four-way split screens are most popular
Mobile Device Support	App-only	App, Miracast, AirPlay and Button Support	The easier and faster connection – the better
Content Encryption	None	Always	Some systems require special configurations to activate encryptions
Interactive Touch Back	None	Yes	Windows is widely supported
Notebook Support	Windows, Mac computers	Any HDMI or ThunderBolt computer including Chromebook	Look for app free support
Extended Desktop Support	No	Yes	Enables more effective presentations
HDCP Content Support	No	Yes	Enables movie clips and other copyrighted content to be displayed

What types of devices can I connect to a wireless presentation system?

Every wireless presentation system today will work with the major notebook platforms such as Windows and Mac OS, but what about Chromebooks and other wired legacy sources and AV devices such as a Blu-ray player? Because many wireless presentation systems require proprietary software to run, these commonly used devices are often not supported.

Forward-thinking managers look for flexibility in presentation systems to enable their teams to seamlessly integrate with a wide variety of devices, such as video conference systems, digital microscopes, gaming consoles, Raspberry Pi, DSLR cameras, and even some that haven't been invented yet.

How to use HDMI to mirror from different types of devices

HDMI is the standard digital output for thousands of different devices, and screen mirroring systems that directly connect to an HDMI port are ideal for a BYOD collaboration environment. It removes the need for proprietary apps and typically enables copy-protected content to be easily shared in a meeting.

Here are some examples of devices that can be connected to an HDMI or USB-C transmitter button:

Digital Cameras & Media Players

- Video conference systems
- Document cameras
- DSLR and digital cameras
- Webcams & GoPro's
- Blu-ray/DVD
- Gaming consoles
- DVRs
- Digital signage

Live Television & Displays with HDMI Output

- Satellite receivers
- Cable TV receivers
- RF modulator HDMI boxes
- Gaming monitors to share streams
- Laser projectors for event staging
- Mac monitors with Thunderbolt 3 output

Chrome Devices & Linux Development Boards

- Chromebooks
- Chrome Bit
- Chrome Box
- Raspberry Pi
- Arduino
- Beagle Board

These devices can connect an InstaShow HDMI button which can use either a USB port on the device for power or an alternate power source such as a portable power bank or cell phone USB power adapter to enable wireless screen mirroring from anywhere in the room.

What about Apps – are they needed?

Security experts and IT managers take software security very seriously. According to the mobile app developer Newgenapps, several potential issues need to be considered both from a user perspective as well as a data security standpoint. Poorly designed apps can be cloned, injected with a virus, or enable the theft of data. Wireless presentation apps are especially important since because sensitive content is often displayed over these systems, and they are commonly used by visitors and employees. For meeting room wireless presentation systems, these apps can be particularly concerning to visitors who must load them on their notebook before presenting, First, before the presentation can start, the presenter must download the software from either the device, a website, or an app store such as Microsoft Windows, the Apple App Store or Google Play. Besides the extra time and effort this takes, some companies "lockdown" their notebooks from unauthorized software to protect from security risks and malware.

"Poorly designed apps can be cloned, injected with a virus, or enable the theft of data.Wireless presentation apps are especially important since because sensitive content is often displayed over these systems, and they are commonly used by visitors and employees."

There are two alternatives available if you are looking for an app-free wireless screen mirroring system. The first option is to use a dedicated Miracast or Airplay receiver on your display, such as an Apple TV. While these protocols are standardized – they were originally designed for basic consumer use, or around a single product platform. For example, Airplay works well on an iPhone or MacBook, but you cannot use it with a Windows notebook.

The second option is to use an app-free system, such as the BenQ InstaShow where the device itself does all the work of transmitting the content to the receiver. This approach enables the system to work with a variety of devices - and can support HDCP content as well.

Calculating Total Cost of Ownership for screen mirroring systems

Research has found that 15% of an organization's time is spent in meetings and that weekly executive meeting required 300,000 hours of prep work. If you were to multiply that time by an average hourly rate of $50, that's an investment of 15 million dollars per year. And that's just the prep work. New wireless presentation systems can enable businesses to improve meeting start-up times, and the flow of information during a collaboration session.

Most IT staff are familiar with the Gartner TCO model, where one-time costs, including both hardware and labor, as well as identifiable recurring costs are used to calculate the total cost of ownership over a specific timeframe. IT managers can compare different types of wireless screen mirroring systems by identifying specific costs that should be reviewed as part of a complete analysis. These costs can vary by model and systems.

The most common comparison of TCO is between button-type transmitter and receiver systems and Wi-Fi network hub solutions. Systems that are integrated into proprietary infrastructure such as the Crestron touch panel often require specialized tasks such as programming that stand-alone commercial screen mirroring systems don't have.

Initial Setup and Testing

WiFi Hub Systems

In general, Wi-Fi network hubs tend to have more complicated installation and require careful attention to network security settings to ensure that the network is not made vulnerable from hackers attacking these hubs. In 2019, the security organization Tenable discovered security flaws in nine different Wi-Fi network-based systems, some of which were critical and could enable a denial of service or other significant threats to the network. Also, since the overall performance of most of these systems is linked to the overall network performance, most brands recommend testing and adjustments by IT staff to ensure satisfactory meeting room performance.

Also, each Wi-Fi hub typically has specific network deployment steps that IT staff must follow to properly set up and manage. Depending on the brand and model and barring no complications, this can take between 30 minutes to many hours to configure the network properly. The one-time costs associated with an entry-level Wi-Fi hub is estimated to be about $1,200. That cost factors in the cost of the solution; network performance bandwidth and performance audit; baseline security standard audit; open and configuration of 13 network ports (on average), enabling encryption security and other features; deploying associated apps on user notebooks; and finally, testing and training users. This is based upon the time it takes internal IT staff to execute the most common tasks at a billable rate of $50 per hour, but this cost may be more depending on the model and if the system requires a special VLAN setup.

Button Based Systems

Button-style systems, depending on the model, have a much simpler installation process. Some will require software apps to be downloaded to the notebook. However, some models do not require any software drivers. These models make it incredibly easy for presenters, especially visitors with "locked down" notebooks, to use the system. Installation just requires a receiver placed near the display and for a user to connect a transmitter to their device through a simple USB or USB-C port. Some systems even allow non-PC devices such as cameras, media players, and even digital microscopes to be connected and shared to the screen, providing a cost-effective alternative to a switcher. The only cost associated with the setup of the system is the price of the system.

Calculating recurring costs for screen mirroring systems

Wi-Fi hubs and even some button-style systems have identifiable annual and recurring costs that should be considered in a TCO analysis. For Wi-Fi hubs, because these products are designed to live on the corporate network, there are regular costs associated with monitoring and updating the software on these devices, both on the notebooks as well as the network hubs. Most brands also provide regular security updates that need to be implemented to protect the network from being attacked through these devices and rely on software subscriptions that can cost up to 10% of the unit

hardware costs. Some button-style systems also can require software to be deployed and downloaded onto the presenter's device and will have recurring costs.

Recently, there are now screen mirroring systems that enable central monitoring and management (such as a firmware upgrade if needed), but otherwise do not incur any identifiable and recurring costs to manage proprietary applications, or via recurring annual subscriptions. The software-free design eliminates the need for both initial and recurring IT support, creating a substantially lower cost of ownership.

Here is an example comparison of an AV Control system, WiFi Hub system, and the app-free BenQ InstaShow can compare using the Gartner TCO model. Your results will vary based on the model, cost of labor, and overall time needed to set up and maintain your system:

Gartner TCO Component	InstaShow WDC-10	AV Control "A"	WiFi Network Hub "M"
One Time Installation Costs – hardware and labor for deployment	$999	$2,175	$1,349
Annual Identifiable Recurring Cost Estimates	$0	$300	$400
Five Year Total Cost of Ownership Initial Cost + (Recurring Costs x Years)	$999	$3,675	$3,349

How much Network Bandwidth is needed for Wireless Screen Mirroring Systems?

With an increasing number of devices requesting access to a corporate network and the exponential growth higher bandwidth traffic, Cisco estimates that IP network traffic will triple in the next 5 years so how does the addition of a wireless presentation screen mirroring impact networks that are already under stress when delivering those big PowerPoint attachments on Outlook emails.

The best commercial screen mirroring systems today enable multiple presenters to be on the screen at the same time. But for those systems which rely on the corporate or another network to work – this takes bandwidth. How much? While it depends on the model of the system, for four presenters to be on the screen at the same time, it can consume as much as 100mbs of bandwidth for a single screen. For a mid-sized company with 10-20 conference rooms operating simultaneously, this can have an impact on other areas of the company that may be dependent on bandwidth capacities such as Salesforce or other cloud-based applications.

> **"Some button-based systems such as the BenQ InstaShow will use its private network for screen mirroring that keeps the traffic off the network. This also reduces the setup and installation time."**

Some button-based systems such as the BenQ InstaShow will use its private network for screen mirroring that keeps the traffic off the network. This also reduces the setup and installation time.

Here is a breakdown of the bandwidth requirements of popular wireless screen mirroring systems:

	BenQ InstaShow S	Mersive Solstice Pod	Kramer Via	AirTame2
Setup and Install	Simple – no network connection needed	Complex 9-page network deployment guide	Complex 27-page network deployment guide	Complex 14-page network deployment guide
Proprietary App needed	Optional	Required	Required	Required
Bandwidth Impact with four presenters with video (per room)	None	4.4 Mbps (1.1mbps per connection)	100 Mbps (25 Mbps per connection)	Single presenter – 13 Mbps at 720p resolution per display
Security	128-bit encryption on all transmissions	Optional encryption – IT "peek mode" enables remote viewing	Encrypted transmissions	Does not encrypt transmissions

Best Practices for ensuring content and network security with screen mirroring systems

In most companies, meeting rooms and board rooms are where executives vet alternative ideas and make decisions. Presentation decks, spreadsheets, and contracts are shared on a display to ensure they all have the right information. As more meeting rooms transition from cables to wireless presentation systems, how do you ensure that confidential information stays that way?

Wireless screen mirroring systems are unique in that they broadcast content from the users' device over the air – or via a network to a display. While this may seem innocuous for most people, savvy IT managers know that these signals are at risk of being intercepted. For example, one popular wireless presentation platform warns that unless specific steps are taken, their system "can be vulnerable to user and network security breaches, including unauthorized user access, screen capture and recording, unauthorized changes to configuration settings, and denial-of-service attacks."

According to cybersecurity expert Ken Buckler, there are three simple ways to protect your wireless system from the catastrophes listed above. While no system is completely immune to security threats, taking the following steps will help enhance your wireless security.

Best Practice #1 - Minimize Network Exposure

Some wireless screen mirroring systems require users and visitors to log on to a corporate or classroom network to present, and then send their content over the network to the receiver. Granting visitors access to a corporate network to present could open the door for malicious malware that can threaten your network. According to Matt Walmsley, EMEA Director at Vectra, "With the advent of BYOD, everyone learned that dangerous threats could be 'walked in' past cybersecurity controls, whether the threats are on a laptop or a USB thumb drive. As a result, it has become important to detect BYOD threats and accelerate the related incident response." With a network-based wireless presentation system, the biggest risk is that these systems, if not properly protected, can be used to access and attack the main network.

Best Practice #2 - Be careful with proprietary software

Many wireless presentations rely on proprietary software apps loaded on notebooks to capture the information and digitize it to a form that can be easily sent to the receiver. For cybersecurity managers, software applications represent a risk, as there is no access to the original code for most systems, and there is always the risk that apps can be cloned or injected with malware if not properly written or protected.

Best Practice #3 - Make sure that your wireless content is encrypted

Not all wireless presentation systems encrypt their transmissions. Some of the less expensive ones send the content over the network unencrypted, while others require IT managers to set up the encryption on their central management system. Look for a wireless system that encrypts all your wireless transmissions – and doesn't leave open the option of unauthorized screen capture and recording if someone at IT does not configure the encryption settings or hits the wrong switch.

How Do I decide which System is Right for Me?

Although the market for wireless presentation systems and screen mirroring devices is relatively new, there is quite a bit of research and evaluation done on the web. Like nearly every other product on the market, fans and detractors often share their experiences on online websites such as Amazon. Recently Gartner has also created a peer review site that enables IT experts to share their opinions on these systems as well.

Wireless presentation systems are often tested and evaluated by IT research firms such as Wainhouse Research as well as industry trade publications such as Commercial Integrator. You can also read articles on the comparisons between popular models to get a better understanding of the advantages and disadvantages of various models. Some companies also produce specific recommendations oriented at specific markets, such as classrooms, legal firms, or marketing agencies that focus specific features relevant to use in these environments.

According to surveys from IT managers and end-users who evaluating different wireless presentation systems, they typically evaluate different products on these three criteria:

1. **How easy are they to set up and install?**
2. **How easy are they for employees and visitors to use?**
3. **What types of devices do they support?**

1 Easy Setup and Installation

Some wireless presentation systems require extensive network preparation to work, while others, such as the BenQ InstaShow, can be set up quickly. You will also want to look at where the receiver can be mounted, as some systems such as the Barco ClickShare do not allow for ceiling mounts – which makes it hard to use with a mounted projector

2 Easy for Employees and Visitors to use

Some wireless screen mirroring systems can be intimidating to visitors, requiring them to load applications, log on to networks, and sometimes even send data over the cloud. Since many companies "lockdown" their employee's notebooks to keep them secure, look for a system that doesn't require apps or special network connections – and that anyone can connect in seconds without extra instructions

3 Types of devices

The best systems can mirror screens from Windows, MacBooks, Chromebooks, mobile devices, and even Linux devices. You can also use an HDMI button to share content from cameras, microscopes, and even industrial machines on a factory floor – without a cable.

Here is an example of how an IT manager might compare popular devices when trying to decide the best system for their medium size collaboration space:

	BenQ InstaShow S	Barco ClickShare CS-200	AirTame 2	Mersive Solstice Pod Gen2i SGE
Connection Type	Button, Airplay, Miracast InstaShare App	Button, App, Airplay, Google cast	WiFi and App	WiFi and App
Number of Buttons included	2 – with tabletop button holder	2 – button holder is extra	N/A	N/A
Maximum # of Presenters	32	16	N/A	Unlimited
Maximum Resolution	4K	1080p	1080p (720p – video)	4K
# of Split Screens	Four	Two	One	Unlimited – based on bandwidth
Setup and Installation	Easy	Easy	Network setup, configuration, and testing	Network setup, configuration, and testing
Employee / Visitor Use	Plug and Play – no software needed	Require app to run on the device	Require network login and app to run on the device	Require network login and app to run on the device
Encryption	All content encrypted	All content encrypted	No encryption	Encryption must be configured
Notebook Device Support	Windows, Mac, Chromebooks	Windows, Mac	Windows, Mac, Chromebooks	Windows, Mac
Mobile Device Support	Phones and Tablets with USB-C and HDMI out, Miracast, or Airplay, InstaShare app for Android & iOS	ClickShare app for iOS and Android, Airplay, Google Cast	iOS and Android via App	iOS and Android via App
Other Devices	Any HDMI 1.4 device such as Blu-Ray, Document cameras, TV boxes, Linux devices	None	Some Linux Devices	None

How to deploy a wireless screen mirroring system in your organization

The most important element in a successful deployment is the effective use of time. For example, in a study of time budgeting at large corporations, Bain & Company found that a single weekly meeting of midlevel managers was costing one organization $15M a year. For a successful deployment, here are some important guidelines

Step 1 – Make sure your screen mirroring system works with everything

Some wireless systems, such as the Barco ClickShare, cannot be mounted on a ceiling for use with a projector, while others may not be able to support Chromebooks or Blu-Ray players. Put together a list of existing equipment that could be used in a meeting to ensure your system can handle them.

Step 2 – Look for an App-Free system – or deploy the screen mirroring app to everyone to reduce wasted time in a meeting

Having to download and install an app during a meeting is a tremendous waste of time and money for everyone. An app-free system such as the InstaShow will only take about 10-15 seconds to connect and display content. If the app is not deployed before the meeting – or if a visitor wants to use the system – it can take up to 5 minutes to download and install an app on the device – assuming the user has the access rights to do so.

If you choose a system with an app, be sure to post instructions on how to obtain and load the app inside the meeting room, as well as hold regular training for new and existing employees so they can utilize the device without delaying the meeting.

Step 3 – Minimize the burden on your network

The best systems limit use the network to control or configure the unit, while other systems completely rely on the network to transmit the content from the device to the receiver. Although VLAN's provide some protection, there are many ways a hacker who gains access to your network through a VLAN can cause chaos. If you choose a network-dependent screen mirroring system – make sure it is regularly updated and the security settings are constantly checked and tested.

Why consider BenQ InstaShow for your screen mirroring system

According to Futuresource, the InstaShow platform is one of the most popular wireless presentation systems used in the world. There are three reasons you may want to consider InstaShow for your collaboration space.

Simple

The InstaShow is easy to setup and use. Unlike other systems, IT managers don't need to open or close ports, and for presenters – you just simply plug in a button to your device and tap to present. No training needed.

Safe

The InstaShow makes it safe for visitors and employees to connect to the system. There is no software to be installed, and visitors don't need to log into your network when they want to use the system. This keeps everyone's computers safe – and potential hackers off your network.

Secure

Each InstaShow transmitter uses embedded AES 128-bit encryption to ensure that all wireless transmissions are secure. The InstaShow buttons will change color or status to signal that your meeting.

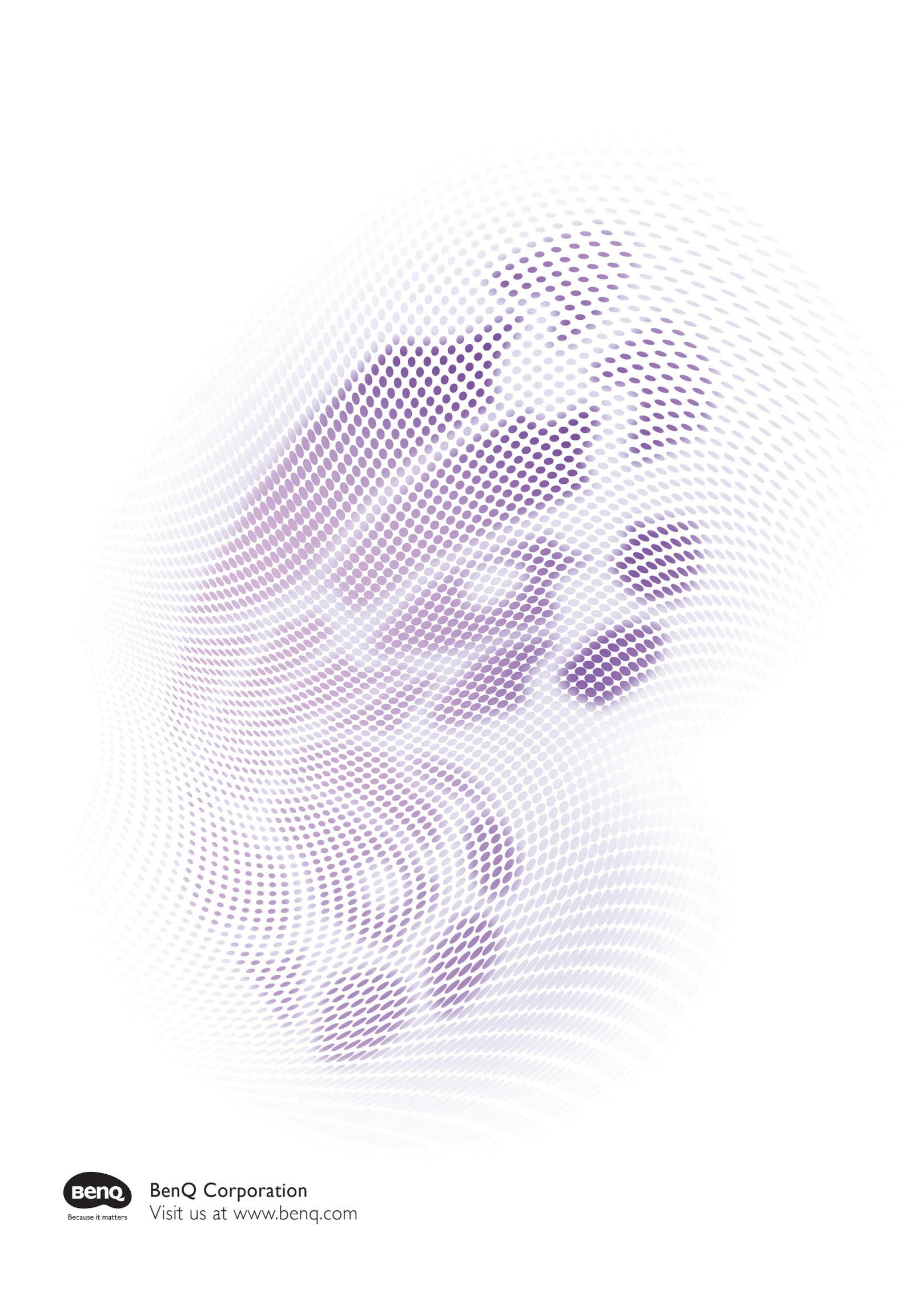
Want to talk to an expert who can help you with wireless screen mirroring?

Sometimes it can be difficult to find answers to your questions when trying to find the right system for your church, school, or business. Since most retailers don't have experts on the floor that can help with these types of products –where can you turn?

For customers looking for advice on choosing the right wireless screen mirroring system for their collaboration space, you can talk directly to an experienced BenQ product expert guide you to the best one for your application. We also can help you find a reseller nearby, or if you want, you can purchase one right on the phone. You can reach them at 888-818-5888. If you want to email them instead, you can reach them at BenqB2B.BQA@Benq.com

Other resources

Screen mirroring systems are relatively new, but you can find many answers to your questions on the BenQ Knowledge Center which has more detailed articles on common questions and comparisons between models. You can also check out reviews of popular models on many websites including collaboration focused websites like Projectorreviews.com, Commercial Integrator, as well as Amazon reviews, and of course – video reviews by IT professionals on Youtube.



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