



# Meeting & Space Management Tips

DIGITAL SIGNAGE WHITE PAPER



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### The Employee Experience

It has been predicted that someday soon there will be no offices, at least not in the 20th century sense. More and more people are telecommuting at least some of the time, meetings are often conducted using teleconferencing technology and software, and since everyone has a smartphone or tablet these days, employees can basically take the office with them wherever they go.

All that is true, and yet the traditional office is still alive and kicking, with many companies spending tens of millions of dollars designing and building new facilities for their employees. However, we're seeing a shift in what "the office" is. In the words of Jacob Morgan, a work futurist writing for Forbes, it's becoming an *employee experience center*.

The workplace is changing from one in which the employees are expected to become a uniform mass of people who adapt to the environment, to a series of spaces that reflect the workforce's preferences and individualism.

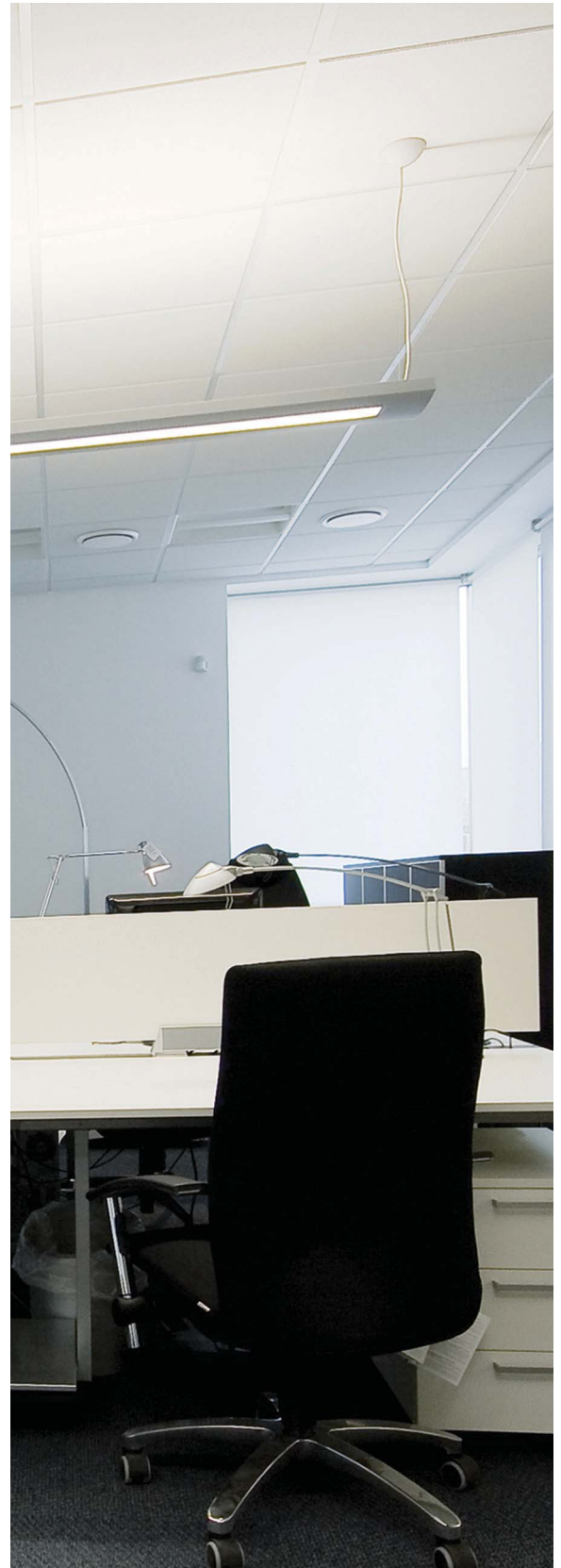
Different people like to do things in different ways, and smart organizations are creating work environments that allow for maximum flexibility and variety. Some of this is being driven by changes in office configurations coming out of the tech industry – cafeterias with multiple meal options, spaces to relax in, huddle spaces and mini meeting rooms, modular workspaces that can be moved around at will, and so on. These new modern elements increase employee happiness, which increases their productivity, which means there are also bottom-line cost factors to consider as well.

Optimizing space management to be more flexible and adaptive is vital to any modern organization. And room signs are a key factor in creating this adaptable environment, especially when it comes to streamlining the whole process of scheduling meetings and spaces.

### New Kinds of Shared Spaces

You may have heard of Activity Based Working (ABW). The concept has been around for several years now, with more and more companies adopting it. Basically, ABW is the move away from employees "owning" or having assigned workstations. Instead, the workspace has a mix of individual and team areas that are designed around different tasks like solo work, learning, collaborating, and socializing.

As more people use mobile phones and laptops to conduct business, technology doesn't have to be tied to a desk. This allows employees to be mobile, both within and outside the office. It gives both individuals and teams the opportunity and flexibility to choose the best space for their purpose at the time they need it. This, in turn, is meant to improve both worker satisfaction and productivity.



Here are just some of the innovating work areas that people in ABW environments can choose from:

- **Desk:** Instead of the traditional one-person-one-desk, clusters of desks are open for anyone to work in.
- **Quiet desk:** People will still need a quiet place to focus their concentration on solo work. However, quiet desks aren't meant to become permanent workstations.
- **Visitor desk:** Some quiet desks may need to be designated for visitors who need an office for the day but aren't used to working in the ABW environment.
- **Team desk:** These are usually a table in an open space for collaborative meetings that don't need the privacy of a meeting room and won't disturb others in the area.
- **Booth:** This is a private space for 1-2 people at a time. Whether it needs to be quiet or noise doesn't matter because these are isolated from other areas to avoid disturbance.
- **Standing zone:** Common spaces without furniture allow people to hold fast meetings and quick conversations. These should be used for only 10-15 minutes, maximum.
- **Video zones:** These can be desks, booths or meeting rooms set up for videoconferencing.
- **Lounge:** It's good to have at least one area for staff to relax and meet informally. This can be a lounge, café or other casual gathering space.

One of the complaints about hot-desking (an earlier workspace system), was the lack of personal attachment to the workplace and people's uncertainty about being ensured a space to work in.

You can still offer areas and opportunities for people to personalize their workplace. If ABS work zones are created as "neighborhoods" for teams, those teams can personalize the area, instead of the old habit of personalizing a desk. People must still have a place for their personal belongings, and a team or neighborhood may also need a library or other shared space for access to physical resources.

As far as ensuring that everyone has a place to work, that requires thoughtful space planning not just for the present, but also future expansion. If one type of work zone is becoming crowded, consider creating another one, or employ a scheduling system with room signs to manage shared spaces. Like all things, supply and demand should dictate how many of each type of space you should have.

## Why Meetings Matter

A small meeting room, for up to eight people, is usually about 120 sq. ft. (the size of an average-sized bedroom), while a larger one, for 9-25 people, is around 350 sq. ft. (a bit smaller than a double garage). For the sake of argument, let's say there's a medium-sized company with 500 employees that has ten meeting rooms – two large and eight small. That's 1660 sq. ft. devoted to meeting space, all of which needs electricity, climate control, furniture, A/V equipment, and the like. That adds up to a hefty price tag, and that's before factoring in the salaries and work hours of people participating in meetings.

Atteniv reckons that there are 11 million meetings a day in the US (doing the math, that comes to over a billion a year), at an average salary cost of \$338 per meeting (which does not count CEOs and other business leaders – those meetings can run as high as \$20,000 each). And the Wall Street Journal reports that the time employees spend in meetings has risen 10% since 2000. Middle managers spend 35% of their time in meetings, and upper managers 50%.

That's a lot of meetings. Yet a benchmarking report from HOK and an article from the Wall Street Journal find some interesting figures about meeting spaces:

- They're used only one-third of the time (depending on the industry – numbers range from 29-36%). So, in an eight-hour workday, spaces are idle five of those hours.
- 53% of conference rooms are designed to accommodate seven or more people.
- 73% of meetings take place between 2-4 people (and half of all meetings involve only two people).

A Knoll Workplace research paper on distributed work finds that smaller meeting spaces have higher utilization rates, and suggests finding ways to use larger, underused spaces to accommodate multiple smaller meetings to save money in the long run.

And considering that employees waste up to 30 minutes a day simply looking for a meeting space (either where they should go, or an available space for an impromptu meeting), an efficient booking system is a must. Plus, the meetings themselves can be made more efficient and productive, which makes people enjoy them more.

## 12 Important Meeting Stats



**11 million** meetings are held in the US each day on average. That adds up to 55 million a week and 220 million a month. In one year, the meeting total is well over a billion



**33.4%** of meeting time is considered unproductive by participants. The most common complaints are that meetings are inconclusive, and that participants are poorly prepared and/or organized



The time employees spend in meetings has risen around **10%** each year, since 2000



**9 out of 10** people daydream in meetings



**\$338** is the average salary cost of a meeting. This average does not include high-paid CEOs and other business leaders. Those meetings can cost upwards of \$20,000 per event



**73%** of people work on other things during meetings



The average meeting length is between **31 to 60 minutes**. This likely derives from the fact that 30 and 60 minutes are the time blocks selectable on calendaring apps



**40%** of employees waste up to **30 minutes a day** searching for meeting space



Staff, task force and information sharing meetings are the most common types, accounting for **88%** of total meetings



**53%** of conference rooms are designed to accommodate seven or more people, while **73%** of meetings involve only two to four people



**63%** of meetings are conducted without a planned agenda. Following a detailed agenda and starting on time can reduce meeting times up to **80%**



Meeting rooms are in use **only 36%** of the time. This means that, in an average 8-hour working day, over five hours' worth of workspace is going to waste



## Make Meetings More Efficient

First, you need to determine what kind of meeting you need. Common types include staff meetings, task force meetings, information sharing, status updates, decision making, problem solving, innovation and team building. Those first three are the most common, accounting for 88% of all meetings. Each type of gathering will have different requirements and goals, which determines things like attendees, agenda and time allocated.

The average number of participants in a meeting is nine, and people surveyed consider 33.4% of meeting time to be unproductive. One reason for this perception could be the number one complaint about with meetings – they are inconclusive, with no clear decisions being made.

### Have an Agenda

Attentiv reports that 63% of meetings are conducted without a planned agenda. This is a mistake – poor preparation is cited as the number two complaint about meetings (and being disorganized is number three). And, research shows that meetings that start on time and have a detailed agenda are up to 80% shorter than those that don't. Spend twice as much time on the agenda as you think you need to, and then stick to it once the meeting begins.

Part of this process is having a clear objective for the meeting. The participants need to be well-prepared or the meeting will veer off in odd directions or get bogged down in background and catching up. This is frustrating for those who have done their homework and sends the message that no one needs to actually prepare anything, since it's all going to be gone over again in the meeting itself.

Any data or background information attendees need will probably have been emailed to them. But office workers receive over 100 emails a day, and it can take ages for them to get around to reading one. Send out reminder messages on your digital signs as the meeting approaches, with a QR code or short URL to the appropriate documents cloud-stored online somewhere. Using hashtags can also help people research broader topics they need to be familiar with.

You should also spend extra time on the attendee list – only have the people present who need to be there. If one person only needs to contribute to one topic and doesn't need to be there for the other agenda items, schedule that item first, so the person can leave when it's done.

### Time is Money

Schedule for half the time you think you need to keep the meeting tight and focused. Parkinson's law claims that work expands to fill the amount of time allotted to it. So, if 60 minutes are allotted to a meeting, that's probably how long you'll be there. The average meeting length is between 31 and 60 minutes. This is partly because it takes a while for everyone to get on the same page, but participants who are well-prepared can reduce this time considerably. Also, many calendaring apps typically default to 30- or 60-minute blocks available to select, and people don't realize they can manually change start and end times to anything they want.

Make sure you start on time – not even thirty seconds late. If someone turns up and has missed something important, maybe they'll learn their lesson and be on time the next time. Set time limits for each agenda item, and end on time or earlier. If all agenda items have been gotten through, then the meeting is over. People appreciate suddenly finding themselves with more time than they thought they had. Even if you go for the entire allotted time, end promptly at the scheduled time.

## Top 5 Complaints of Meeting Participants

1. No clear decisions made

2. Poor preparation

3. Disorganized meetings

4. Individuals dominate

5. No follow up

Other people might need the room right after you, and if they start late they end late, and a cascade starts. And if you have refreshments available, don't spend the first five minutes making sure everyone has a coffee or pastry. If they want them, they can get them beforehand. The meeting should still start on time with the very first agenda item.

### **Keep Focus**

You should also establish ground rules for conduct – people need a system in place to make things run efficiently. The meeting should have a clear leader, who cedes control for limited amounts of time on an as-needed basis, and then gets it back. If it makes things run faster, maybe different agenda items can have different leaders.

Some companies strictly prohibit any personal technology in meetings. A Verizon conferencing white paper finds that 73% of employees bring other work with them to meetings. This means they aren't paying attention. They also find that a staggering 91% of professionals say they daydream during meetings, and 39% say they have even dozed off.

However, tech can be useful. Many companies are using software like LessMeeting and UberConference to make things run more smoothly. Even Evernote, Google Docs or One Cloud can be used to supply preparation materials, as well as make meeting summaries available and easily accessible.

You want your meetings to be as data-driven as possible. Decisions and discussions should be based on facts, not assumptions or people's experiences. You can make that data available using cloud storage, and display data visualizations, reminders and access links in meeting prep materials.

### **It's Not Over When It's Over**

The final complaint in the top five is that there is no follow-up. Make sure to have someone taking detailed notes during your meeting and supply a post-meeting summary. Again, cloud-based document storage saves time for everyone.

You also might want some feedback from participants. It's a simple matter to create an online post-meeting evaluation form for people to fill out. Set a time limit and allow people to submit anonymously to increase participation.

### **Consider Alternatives**

Maybe you don't need a meeting room for nine people for 60 minutes. One alternative is to break a meeting into a series of micro-meetings – 5-10-minute segments, where only the people who need to talk about a certain topic or agenda item go off in a corner and do that, then come back to the main group and break apart into other micro-meeting groups. Sort of speed dating for a meeting.

Another form of micro-meeting doesn't even use a room – quick talks and updates in huddle spaces and conversation pods can be far more effective, and less time-consuming, than everyone traipsing into a room, sitting down, and then starting.

Stand-up meetings are also becoming increasingly popular. Like the micro-meeting model, only those that need to be in on the conversation participate. No one sits – this creates focus and forces them to keep things short and sweet, and discussion relevant. Just remember that this is only appropriate for certain types of meetings. It's not a great way to conduct a detailed planning meeting or technical discussion.

If your workplace is especially meeting-heavy, consider having a meeting off-site. Heading to a nearby café, or a lunch meeting at a restaurant, or even in the park or on the lawn outside can really change the atmosphere of a meeting and breathe some much-needed fresh air into people who spend all day either at their computer or in meeting rooms. Some companies are even having micro-meetings on commuter trains or buses, with the caveat that things must be resolved by the time the vehicle gets to its destination.

Mixing it up and deploying a combination of meeting types will keep things feeling fresh and help alleviate meeting burnout, which your employees will appreciate.

### **Make Spaces More Efficient**

There are plenty of potential headaches when using meeting rooms – double bookings, overbooking resources, rooms are booked but not used, too many calendaring systems (or ones that don't talk to one another), no clear way to book a space on the fly, and so on. A lot of employee time is wasted in medium- to large-sized organization just looking for a place to meet.

Each building is its own character, with possibilities and constraints unique to that facility. You need to create a system that is flexible and able to be fine-tuned to each building's specifics. And what if you decide to change things around with a remodel or reconfiguration later? You don't want to start from scratch again – whatever system you're using needs to be adaptable enough to be used any and every way you want.

#### **Dive Deep**

You need to be able to see how the people in your organization are actually using your spaces. Which rooms are used most often? Which ones remain empty more often? Are rooms being used to capacity, or do you have small groups booking large rooms they just rattle around in (or conversely, large groups crammed into smaller spaces)? Are the people who book rooms with resources like projectors, telephones, whiteboards and computers actually using those resources?

Can you see any noticeable trends – are there peak times and/or days? Does one team or department book more than others, and do they choose the space most appropriate to their meeting goals? Are some spaces more popular than others? Could spaces that sit empty part of the day be used for something else? Dual-function environments are very much the “in” thing in modern office environments these days.

When considering activity-based workspaces, it's easy to measure usage – just walk around and see what the traffic is, how many people are around, how many workstations are empty for part or all of a day. You can do the same with meeting rooms but looking at your scheduling software might be a better way to visualize long-term trends.

Some companies use tracking sensors, placed on furnishings like tables or seats, that detect when a person is near them. These are expensive but allow pinpoint accuracy – right down to which chair is favored over another. Beacons can tell you when someone enters or leaves a room, and some beacon systems can integrate with mobile apps that require people to check in when using a space. This is a more modern version of badge- or card-enabled locks on doors. You can also implement Wifi triangulation that uses mobile phone or tablet location information (or data from an embedded chip in an ID card).

Each method has its pros and cons, and some of them can yield quite a lot of very specific data, but can feel sort of Big Brother to employees, while others require employees to remember to check in or otherwise use the monitoring system.

You also want to see how people reserve spaces. Is everyone comfortable using your reservation system, or do some people prefer to walk around and look at the spaces before selecting one? Do people need training on your calendar app? Schedule a session once in a while for new employees, to cover new features or just to remind people of best practices.

#### **Establish Best Practices**

Once you have an idea of how your spaces are being scheduled and used, how can you as an organization react to data about how meeting spaces are used, increasing efficiencies? The most important step you can take is to establish and circulate some best practices.

Many scheduling apps show room details – how many people it holds, AV/IT resources, etc. Make sure room data is populated in the app so people can see what they are reserving and make the best choice. If your calendar app doesn't have this capability, simply put together a room listing with the information and post it on your intranet for quick reference.

Good reporting tools in your calendar app are also essential for analyzing your space utilization. They let you see how your meeting spaces are being booked so you can make improvements. If people are scheduling rooms for an hour, but only using them for half an hour, you can send out friendly reminders to reduce reservation lengths. The same goes for if people are reserving large rooms but only four people come to the meeting.



Be sure to publish your best practices somewhere online and remind employees regularly to check them out. A simple list of tips will do:

- Make sure your room size matches your group.
- Book for the exact length of time you need instead of the default 30 or 60 minutes.
- If you aren't using AV, please book a room without a projector.
- Don't need privacy? Consider a huddle space instead.
- Be sure to publish an agenda in advance.

Also, consider the different cost points for rooms, such as heating and lighting – some companies integrate beacons with controls that turn on lights and climate controls when people enter the room, and off when they leave. However you do it, you want to use the data you gather to optimize your space management, adjusting as trends and patterns change.

## 8 Conference Room Scheduling Tips



**USE A GOOD CALENDAR SYSTEM** | It doesn't make sense to have someone spend their valuable time manually handling room reservations, updates and cancellations. Apps like Microsoft Exchange and Google Calendar let everyone in your organization see availability and book rooms in the software with a few clicks.



**PUBLISH POLICIES** | Make your event organizers as self-sufficient as possible with some basic guidelines. Make sure people know how to handle canceled meetings in your app, and that they aren't using your largest meeting room for a two-person chat when smaller rooms are available.



**ADVERTISE YOUR ROOM ASSETS** | Show a photo of each room, along with details like seating capacity, furniture and audiovisual tools online or in your policies so people can choose the best space for their needs. If you have an activity-based workplace, be sure to show which areas are quiet zones or for privacy.



**SHOW SCHEDULES ON SCREENS** | Nothing is more frustrating than arriving just prior to a function and being unable to find it due to lack of adequate directions. Use digital signs at entryways and in lobbies to show your event schedule with room names and start times to improve the attendee experience.



**USE ROOM SIGNS** | If you're looking for your meeting, or looking for a place to meet, digital room signs can help. These small screens outside your shared spaces can display that room's schedule for the day so people know they're in the right place at the right time.



**SET NAMING CONVENTIONS** | Always use event names that are descriptive but concise. "Department meeting" leaves the reader asking which department, while "Visix bi-weekly marketing staff meeting" is too long. "Weekly marketing meeting" gives all the information needed in a digestible chunk.



**SHOW CANCELLATIONS** | With plenty of notice, you'll probably want to cancel meetings in your app. But if a meeting cancels at the last minute, consider modifying the name instead (e.g., "CPR Training – CANCELED"). This can be a good way to get the attention of attendees who may not have checked their email before showing up.



**SEND REMINDERS** | Everyone is busy and may not have tomorrow's meeting schedule memorized. Setting up email or calendar reminders can help keep both organizers and attendees on track. Location and start time details help everyone to be on time, or someone might realize they need to reschedule once they get the reminder.

# 5 Reasons to Use Room Signs

One of the most powerful tools you can use for efficient space utilization is digital room signs. Whether it's an office, healthcare facility, conference center, college campus or K-12 school district. Rooms signs are integrative, efficient, extensible, economical and are environmentally friendly.

### 1. Integrative

Room signs bring your calendar right to your door, and your door to your calendar. They integrate easily with existing scheduling programs (such as Microsoft Exchange, Google Calendars, EMS, 25Live, Amadeus, etc.) and bilateral scheduling means that changes made at the room sign immediately update into your calendar system, and vice versa.

Room signs easily mount on the wall, glass or cubicles. And smaller models, such as E Ink signs, are wireless and can be moved around at will, which makes them perfect for office hoteling and shared spaces. These signs let you turn any area into a meeting space for a limited time and are very affordable at just a few hundred dollars each.

### 2. Efficient

Some room signs are interactive to let you book right at the sign, with the calendar system being updated from there. What gets scheduled in one place shows up in both places, so there's no chance of double bookings. You can also check-in, start, extend and stop a meeting right there at the sign.

You can see the whole schedule for each room, or an overview of all available spaces. Whether someone wants to book a space for a meeting a week from now, or in 15 minutes, all the information is available and up to date. Also, there's a permanent record of what happens, so you can track meetings and make adjustments accordingly for more efficient room usage.

For example, Marketing Team A keeps scheduling room 17 for one hour every week. But a quick look at the usage stats shows that only three or four people ever check-in, and they only use it for 30 minutes. You can then suggest a smaller room or different schedule, so the room is used to its fullest potential.

Room signs allow system-wide efficiencies. Availability lights on the sides of room signs also make it very easy to find an available room as needed – green means the room is open, and red means the room is in use, so people can see open rooms at a glance down the hallway. And a quick glance at a room sign tells you everything that's scheduled for that location, making finding your meeting fast and easy.

### 3. Extensible

Room signs are screens, and so are extensions of your existing digital signage system. People wrapped up in meetings all day don't have to miss important announcements or alerts, and specific rooms can be targeted with specific messages that are relevant to the people using that room.

And you can increase room sign usage by advertising them on your regular digital signs – you can even feature short videos showing how easy they are to use. You can also add wayfinding capabilities and integrate mobile tools with QR codes and SMS. Anything you can show on a digital sign, you can also show on a room sign. Also, you can start off with just a few room signs, and then expand as needed.

### 4. Economical

Room signs can be a very affordable way to outfit all your rooms. With electronic paper signs costing just a few hundred dollars and virtually no infrastructure needs, you can update your office at very little outlay.

Power over Ethernet Plus (PoE+) for interactive models lets network cables also carry power using a network switch or injector, further reducing your cabling needs and cash outlay.

Digital room signs also eliminate expensive and wasteful printing costs, as well as the staff time that was spent designing, printing, distributing and removing printed signs.

## 5. Environmental

They can also reduce your power usage. E Ink signs use very little power – they only draw power when they change an image, and the batteries have enough charge for around 10,000 updates - that's three years' use on average.

Room signs and good booking practices can help you streamline your existing spaces right now, increasing space utilization and making the entire process more people-friendly. They are a fast and affordable way to maximize your rooms' usage and make everyone's lives a little easier. This increases employee satisfaction and improves the employee experience. Plus, all your rooms can be combined into a single space management system.

## 8 Benefits of Using Room Signs

1	BE MODERN		Replace old, unattractive paper notices with modern interactive screens that beautifully integrate with your décor.
2	GUIDE PEOPLE		Color-coded availability lights let everyone instantly see a room's status so they know which spaces are available.
3	USE YOUR OWN APP		Easily manage your room sign schedules with the calendar app or program you are already using.
4	AVOID DOUBLE BOOKINGS		Bilateral booking lets you schedule space right at the sign, which updates info in your calendaring system.
5	MANAGE MEETINGS		A friendly touchscreen interface lets people start, extend, end and cancel meetings at the sign. You can also require a security PIN for on-screen changes.
6	SHOW MESSAGES		Show full screen schedules, or add digital signage messages so people in meetings don't miss important announcements.
7	REPLACE PAPER		Use affordable, wireless electronic paper room signs outside meeting rooms, classrooms or for portable office hoteling.
8	ADD WAYFINDING		Pair room signs with a wayfinding and room booking kiosk for a complete room management solution.

## Interactive Room Signs

Touchscreen room signs can help with a lot of these issues. These are mounted next to meeting rooms, and the first noticeable feature is that rooms currently vacant show a green availability light on the room sign, while those in use show a red light – you see at a glance which rooms are open or occupied.

The screen can show the room number, the current schedule of bookings for that room and whatever resources are available (projector, whiteboard, etc.). If a resource is absent, or doesn't work, you can touch the appropriate icon on the screen, and an email is sent to a designated recipient (office manager, etc.) informing them there's a problem. That particular resource is shown as unavailable until the maintenance has been carried out.

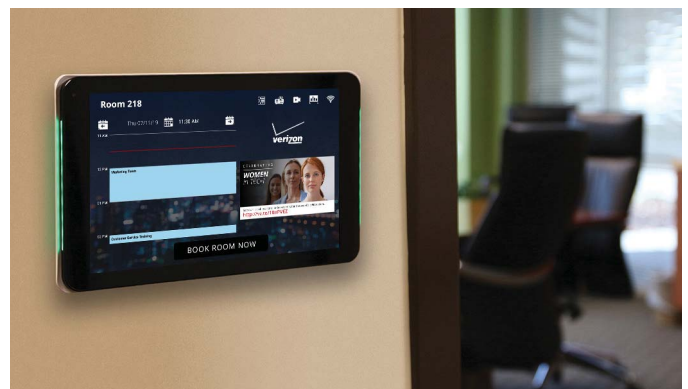
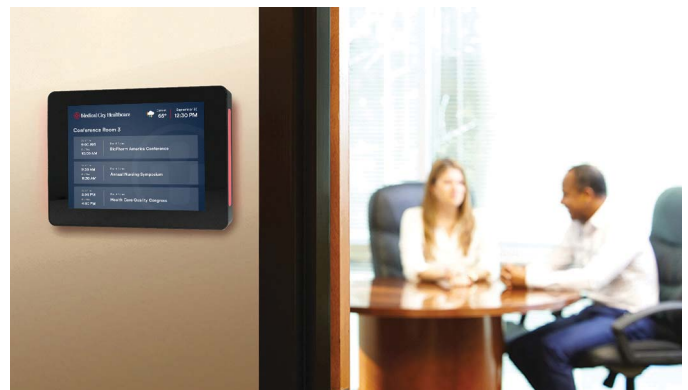
Since interactive room signs integrate with your calendaring software, any bookings or changes made in the software are instantly reflected on the room sign. But you can also book rooms right at the sign itself, with the information being sent to the scheduling software. If the room you want is already booked, that room sign shows you other rooms that are currently free.

These room signs also let the organization track room usage in real-time. Once it's time for the meeting, you can start the meeting by touching an icon on the screen, as well as end it when you're finished. A meeting can also be extended or canceled with a simple touch as well. This can help with visibility into usage trends, so you can better streamline your booking guidelines.

If you like, your room signs can be protected with an administrative PIN, so only authorized personnel have access. Your logo can be displayed, or that of a visiting company that is using your space or are your guests. The displays are also additional real estate for your digital signage playlists or any other image you'd like to display, like "turn off phones", Wifi passwords and more.

Many room signs let you run one Ethernet cable to the room sign to supply both power and data. And the signs can be surface-mounted or recessed, and even mounted on glass, so you can use them outside a variety of shared spaces.

Interactive room signs can help you increase efficiencies in space management, as well as measure and monitor how those spaces are used. You can then use this data to manipulate and increase efficiencies even further, leading to lower overhead costs and greater user satisfaction.



## Electronic Paper Room Signs

Terms like electronic “paper” or “ink” might seem like a misnomer at first. Electronic paper, or e-paper, is not a substance, but a display device. The most well-known devices are probably Amazon’s Kindle e-readers, but e-paper is also used in room signs for space management and digital signage.

Electronic paper signs are the most cost-effective option to display current schedules outside your shared spaces – an inexpensive, wireless and battery-operated solution for space management.

E-paper signs give you:

- An economical choice for displaying schedules
- Wireless and battery-powered room signs
- Easy integration with calendar apps
- Real-time schedules for shared spaces
- Black and red ink for screen data, logos, etc.
- Easy workspace management for office hoteling
- Resources to save time, money and waste by replacing printed schedules

EPS room signs show data from most event management systems, so you can publish room schedules and event data from your current scheduling app.

Calendar changes are delivered to EPS room signs throughout the day without any user intervention, so you don’t have to “push” out updates manually.

EPS room signs are updated wirelessly via RF communication designed to minimize battery usage. A sign’s batteries are only activated when information changes, which allows batteries to last up to three years or 10,000 updates.

Paper-white signs use E Ink technology for a bright display background with low reflectivity and high readability and allow for both black and red colors on screen.

These compact displays can be placed virtually anywhere because they don’t require any cabling. Easily mount them outside meeting rooms, classrooms, training rooms or any other space you reserve. You can also attach them to desks or cubicles used for workspace hoteling.





## 8 Benefits of Hoteling with E-Paper Room Signs

1

### LOWERS OVERHEAD COSTS

The average organizational cost of one desk is \$10,000 a year, which needlessly wastes resources and costs the organization money. Office hoteling reduces real estate overhead by allocating workspace efficiently.

2

### ENCOURAGES MOBILITY

Studies show some employees, like salespeople, spend as little as 30% of their time physically in the office. Hoteling accommodates a mobile workforce and promotes a telecommuting environment.

3

### REDUCES DESK VACANCY

Studies show that physical desks are only used 45-50% of the time. Employees may be in meetings, temporarily working in other departments, on training courses, traveling, on holiday or ill. Hoteling improves desk utilization and reduces vacancy.

4

### PROVIDES FLEXIBILITY

Different employees may need different kinds of workspaces at different times for different tasks. Hoteling provides greater flexibility in where and when they work.

5

### SAVES MONEY

Reducing the number of desks cuts down on energy consumption, dedicated phone and IT equipment, furniture and other resources for permanent stations.

6

### FOSTERS COLLABORATION

Hoteling and huddle spaces foster more collaboration and teamwork. This increases productivity, employee satisfaction, and improves talent acquisition and retention.

7

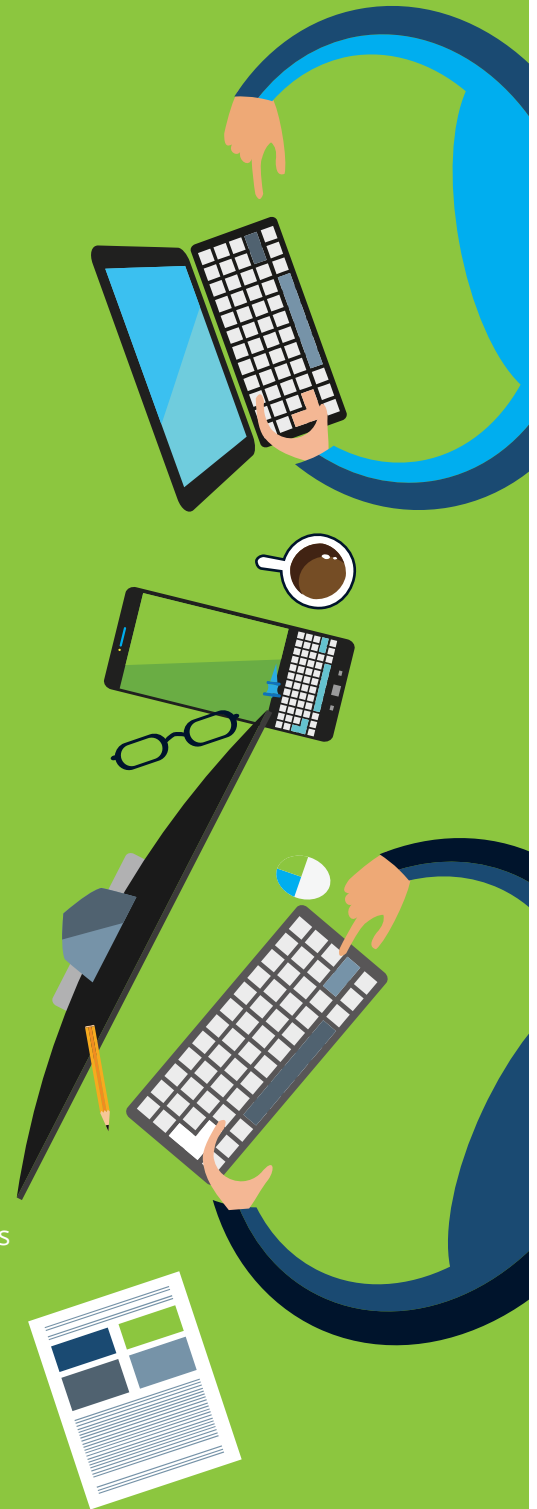
### REPLACES PAPER SCHEDULES

Electronic paper room signs replace ugly, wasteful paper notices and desk calendars to provide a modern, self-updating space scheduling system.

8

### UNIFIES SPACE MANAGEMENT

Hoteling with electronic room signs lets you use a central scheduling app (Exchange, Google Calendar) to reserve places. This unifies your space management efforts.



### What is e-Paper?

Devices like e-readers use e-paper, which in turn uses E Ink. The “e” simply stands for “electronic” and has become a fairly standard way of naming things since the creation of email in the 1960s (though it was called electronic mail until around 1993, when “electronic” got shortened to “e” plus a hyphen, and then eventually the hyphen itself went away).

Way back in the 1970s, Nick Shendon invented Gyricon for Xerox in Palo Alto – a tiny rotating ball (around 100 micrometres) containing a janus particle (named after the two-faced Roman god of beginnings and endings, who gave us the name of the month of January). This is a nanoparticle that can have two or more separate physical surface properties. These particles have negatively charged black plastic on one side, and positively charged white plastic on the other. By putting these in a grid inside a transparent silicone sheet and suspending them in a small bubble of oil, they can rotate to either side, depending on if a charge sent to them is negative or positive.

That’s the genesis of E Ink. The idea was to facilitate a paperless office, and to mimic the look of ink on paper as closely as possible. So, when a particle has its black side facing up, it looks like ink and when its white side is facing up, it looks like blank space. Thus, words and pictures can be easily formed, and the brain processes the information in the same way it processes printed books and newspapers.

In 1997, Barrett Comiskey, Joseph Jacobson and JD Albert at MIT’s Media Lab built on this work, creating the first real electronic paper displays. Instead of a rotating plastic ball, there was now a round chamber filled with clear fluid that contained various black and white particles which float up to the top of the sphere and stick, depending on the electric charge they receive. That same year, they co-founded the E Ink Corporation, which continued to improve the product. In 2001, they introduced the active matrix electronic paper display, which allowed the addition of color changes

Then, in 2004, researchers at Philips created inexpensive, thin flexible sheets of electronic paper, greatly reducing costs. Sony used this technology to create the first e-reader, the Sony Librie. This reader, while a bit slow and not super high-resolution, could display texts that could be read in direct sunlight and needed no power at all to maintain an image – it only used power when changing the image, or page.

Three years later, Amazon launched the Kindle, the success of which drove innovation and brought costs down even further. In 2010, e-paper entered the digital signage world with smart shelf labels – small displays at cashier desks and near products in a store that displayed up-to-date information about products and pricing. These were easy to install, lightweight, needed no wires, and were easy to read from almost any angle – even in direct light.

2014 saw the first jumbo e-paper display introduced. These 32-inch displays are 25 times larger than standard e-readers and have been used in museums and retail establishments for advertising, digital signage, wayfinding and more. 2014 also saw the first introduction of room signs using e-paper and E Ink. Visix premiered its own e-paper room sign at InfoComm that same year.

In 2015, Australia began using solar-powered e-paper traffic signs to inform the public, and the City of London installed e-paper displays at bus stops, showing real-time arrival and departure information, interactive route maps and more. That same year, Yusuke Komazaki developed e-paper that could be written on with a magnet.

In 2016, Visionect’s RGBW filter! Advanced Color e-paper displays were debuted at SID Display Week in San Francisco – the first consumer full-color e-paper displays that didn’t use a color-filter array. In Europe, e-paper displays began showing up on long-distance trucks showing targeted advertising, information on traffic jams, distance to the next gas station, and other helpful information for drivers. The Estonian National Museum also began using e-paper displays for interactive screens and digital labels to enhance the visitor experience. And the E Ink Corporation launched their largest display yet, a 42-inch e-paper screen, at CES 2017 in Las Vegas.

That’s where we are today. The resolution is still too low to display moving images, though this hurdle will likely be overcome in the very near future.

### Why e-Paper?

Why all this work on e-paper displays? What are the advantages over LED and LCD screens?

First off, they are a lot cheaper to buy and operate. They use only 1% of the power of an LCD display and can be used both indoors and outdoors and still be just as easy to read, even in direct sunlight. Just consider the project pioneered in Sydney with street signs – a city like Los Angeles puts over half a million temporary street signs up each year, at a cost of \$9.5 million. Having e-paper signs, where you can change what they say by typing in a few things into a software app, would save an enormous amount of time and money.

Because they aren't backlit, e-paper signs are much easier on the eye. Though research says that e-readers are not inherently better for your eyes than backlit displays (which have a flicker that can cause eyestrain and headaches with prolonged use), the fact is that human eyes are designed to use reflected light rather than projected light. And most LCD or LED screens have a glossy finish, which creates visual noise that our eyes must work harder to overcome, especially in bright environments.

This technology is taking off and being applied in surprising places. Some retail stores are using e-paper to display prices and sales; buses and trams are using e-paper to display their numbers and routes; there are e-paper luggage tags and even E Ink tattoos. Some industry insiders predict that e-paper will overtake and surpass other types of displays within the next ten years.

As the world goes more and more digital, e-paper is poised to become the technology of choice. One day, we'll even have tablets and smartphones that use it. But if you're looking for a room management and scheduling solution right now, e-paper and E Ink room signs are the most affordable, most flexible option available today.

### Conclusion

Regardless of how you decide to maximize your facility's space potential, having a system in place that makes scheduling and tracking room usage easy and efficient is absolutely vital.

We have another free white paper with scheduling tips, real-world case studies, and ideas for using digital signage that might help - Increase Efficiencies with Room Management and Office Hoteling. Download it from our website today at <https://www.visix.com/office-efficiencies-room-management/>.

Want to learn more? Contact us at [salesteam@visix.com](mailto:salesteam@visix.com).

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