

Touch & Collaborate

Will the latest IWB craze finally result in widespread enterprise adoption?

By David Danto

After many years as an education market boon and an enterprise bust, the interactive display is beginning a resurgence in popularity. Large firms such as Microsoft, Cisco and Google have now stepped into the space, and they take their place alongside a number of existing players and challengers. Will these new systems finally catch on for widespread enterprise use, or are we at the beginning of another “hype cycle” that eventually will leave us where we were, with interactive displays covering a relatively small niche where they are of benefit?

Whether you call them smartboards, interactive displays, electronic whiteboards or by the new handle, “immersive collaboration displays,” touch-enabled large-format displays have been around in one form or another since the early 1990s. These devices allow the visual exchange of ideas (drawings, sketches, annotations) to be extended to people outside the meeting room, and to be saved, distributed and in some cases continued (the latest tech permits a distributed sketch to continue to be worked on as if it was the original, erasing and modifying pre-drawn lines at a later time). Although they inarguably increase the ability to collaborate, and are very popular in the classroom environment, they haven’t taken hold in the enterprise market for very specific reasons.

Traditionally, these devices are exceptionally difficult to learn how to use. Although a teacher goes into a classroom every day to use his or her tools, an enterprise conference room has different users every hour of every day. Generally, these enterprise users are people who expect to walk into a room and just start meeting... without requiring instructions or to have ascended a big learning curve. Also, enterprise meeting participants generally don’t get up; they sit at the table and use their personal devices.

Manufacturers are trying to get over these hurdles by making devices that are both easier to use and are usable from personal devices. Clearly, a new “hype cycle” has begun in the market place, with many new entrants into the space. (In my mind, this parallels the “immersive telepresence” craze of about 10 years ago, with all of the participating manufacturers taking a “we have one, too” approach instead of pointing out the obvious flaws of the category.)

Still, it’s anybody’s guess if the interactive display will be the next “must have” in the enterprise conference room, or if factors such as difficulty of use and the often stratospheric price or ongoing usage fees will cause minimal adoption by users, making this latest “hype-cycle” fizzle out after a few years just as immersive telepresence correctly did.

We’ve assembled representatives of some of the leading manufacturers in the space, integrators who sell and install the products, and

enterprise end users to give us their opinions. Will the current interactive whiteboard craze finally break through to widespread enterprise usage, or are we just living through the latest tech-fad bubble that will burst?

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Courtesy Ricoh

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The first interactive whiteboard was introduced in the early 1990s for office use.

Soon after, educators started to see the benefits in classrooms and rapidly adopted the technology. Nowadays, the interactive whiteboard is very popular in K-12 classrooms across the world.

Corporate users are also interested in the technology. Corporate IT departments constantly get requests to put interactive whiteboards in meeting rooms or conference rooms so the users can create, collaborate, save and share content easily. However, the usage and adoption rate of such technology is very low. Instead, people opt to use regular dry-erase whiteboards or a display without interactive features. Thus, most corporate users abandon interactive whiteboard technology or remove them from the conference rooms.

The problem is that the interactive whiteboard is not easy to use. Fundamentally, an interactive whiteboard combines a dry-erase whiteboard with an LCD projector and is usually mounted on a wall or floor stand. Powered by “easy-to-use” software, the whiteboard becomes a larger, touchable computer screen viewable by an entire room. Your finger or electronic pen becomes the mouse to operate the computer. But whiteboards still have some learning curves for regular users.

Beginning in 2014, some large-format display products began to become more popular in the bigger enterprises. These products, often called “huge iPads on steroids,” feature collaboration software that improves ease of use. These large, bright, high-resolution displays also had a WOW factor, which helped their widespread acceptance in



Courtesy Cisco



Courtesy InFocus

the enterprise environment. As good as they were, users still needed some training before they could use these systems. That brings us to the present. Recently, I had the opportunity to play with one of the newest interactive boards, and I believe it has hit upon the solution that will encourage widespread enterprise adoption. This product is positioned for the large number of enterprise conference rooms that still only have a flipchart or dry-erase whiteboard to go along with their conference speaker phone, projector/display, videoconferencing system, etc. All these products are either siloed or poorly integrated together and, overall, they do not provide a great user experience. Now, with the newest entrants into the space, users can replace all those components with a single piece of glass. These products can cover all the functions needed in a conference room with only one single touch! I believe this type of solution will finally become widely adopted in the enterprise environment.

First, user expectations have changed, driven by the total mass adoption of smartphones, tablet devices and touchscreen computers. It seems like “touch” is everywhere now, and users expect to touch or use gestures and movement that are intuitive and natural. Cost is also a driving factor in large-format touch surfaces. Not only has the technology improved from infrared, to resistive, to optical solutions, to active capacitance and beyond, but each generation of better hardware also comes with a lower price tag. As such, the average consumer (both residential and commercial) can afford to consider touch devices alongside standard displays.

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As we all know, the workspace of tomorrow, and even that of today, is changing at a faster rate than many of us can ever recall. Ideas that have tried to take hold in the past are coming around again as fresh and new to a generation of millennials who are demanding highly collaborative tools in the workplace. As for interactive displays, what was once a very expensive and, to a degree, niche market for specialized applications is now everywhere...but why is that?

In today's digital world of smart devices and cloud computing, three essential aspects of collaborative technology have emerged:

- touchscreen interactive displays, a large surface that everyone can see and participate in
- digital content sharing so everyone is on the same page and works together on one document together
- capture of real-time information and annotation, enabling ongoing follow-ups and reviews from any location.

By looking at it this way, what is needed is clear: A modern solution must be a cloud-connected interactive display that works seamlessly

with PCs, Macs, Chrome books, iPads, iPhones and Android devices, and it must be able to support commonly used document formats such as PDFs, Excel sheets, PowerPoint, Word documents, Google docs, etc. The questions then are, how much does such a solution cost (can one afford to install enough of them?) and how easy is it to use (will it be intuitive for end users or still be as difficult as the legacy products in the IWB space)?

My point of view is to strike the correct balances between price and value, between powerful features and simplicity of operation, between IWB touch control and freedom of participation from smart devices, and, most importantly, between security and the convenience of participation from anywhere.

The current, new generation of students and employees understands that they already have the needed technologies in their hands, in the form of their iPhones, iPads and other devices. A modern interactive display must be one that pushes content to and loops in these devices as input sources. That is my key point: A touch-enabled display by itself is not the end game. It's just a common point of interactivity across all participating devices.

For schools and enterprises, they must decide how much they should invest in such a technology, and what software is essential to meet the purpose of collaboration. Organizations can easily spend tens of thousands of dollars per room to install an interactive display and then find that people won't use it because it doesn't meet their needs for simplicity and compatibility with devices.

Firms such as mine offer far more affordable connected devices along with a relatively open collaboration system. This enables people to easily interact with all devices and customize their workflow using all kinds of apps and software. Users can whiteboard, drive presentations, annotate and share notes, either over a public cloud or using a secure internal server, and they can do it at a per-room cost of 1/70 of the current top-end solution on the market. That's 70 rooms equipped with interactive displays, each at the cost of less than a speakerphone, for the same price as one top-end system. At this price point, combined with easy use and compatibility with smart devices, organizations can finally afford to touch enable all their rooms...and they should!

MANUFACTURER

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The popularity of, and demand for, interactive displays has surged over the last 18 months as businesses, public agencies and schools have been more frequently called upon to connect and collaborate with remote colleagues. The need for all-in-one systems that allow users to videoconference, share content, whiteboard, annotate, co-create and edit documents has driven CIOs in search of solutions. Touch-enabled systems that are easy to deploy and easy to use have been favored, as those types of systems allow users to wirelessly cast content from the mobile phones, tablets and laptops they bring into the room.

This product space is not new. In fact, our firm introduced the original all-in-one system more than five years ago, and now has tens of thousands of systems installed around the world. Recent entrants from Microsoft, Google and Cisco serve to indicate the size and rapid growth of the segment.

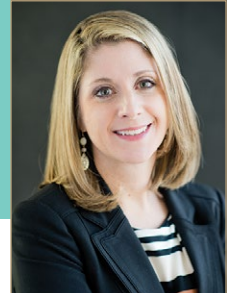
The idea of a single conference room solution that replaces separate videoconferencing, whiteboarding, projection and document-sharing products is compelling. Ideation and collaboration among team members in different locations requires all of the above, and is most effective when using a single product that supports the natural way people interact. The best technology in this category will enable remotely located people to work together in a manner that is as close as possible to the way they would work if they were all in the same room. Effective solutions demand little user attention to the tools, allowing users to focus on the work.

The rate of adoption of this all-in-one category has already surpassed most analysts' expectations. Education was the first sector to adopt the products for common use, deploying them widely in classrooms. At about the same time, most people were coming to fully utilize the advanced features of smartphones and tablets in their personal lives. Encounters in both areas have driven subsequent awareness and rapid adoption in the enterprise, SMB and government sectors. The broad and pervasive commitment all of these institutions have made to interactive display solutions, and the variety of uses for which it has become commonplace, gives every indication of a significant new and ongoing opportunity, not a flash in the pan. Broad adoption will be propelled by products that embrace standards, interoperability among brands, open architectures and easy connections with users' own devices.

At InFocus, we recognize this as a phenomenon with dimensions and durability, similar to our experience with the digital projector category, which we pioneered many years ago.

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The "interactive display" category is fairly broad and contains a wide range of capabilities, depending on the vendor.

Solutions range from digital whiteboards that have been around for years (many collecting dust) to giant multimedia walls where users can share different media sources, move content around and, in many cases, also whiteboard.

I predict that these types of standalone solutions will continue to be a niche play for a couple of reasons: They are not simple to use and they are not integrated into a broader workflow. Users need solutions that are inviting and intuitive; if they have to get out a user guide, adoption will be limited.

Additionally, users need the ability to start the conversation before the meeting, be productive and interactive during the meeting with local and remote attendees, and keep the conversation going after the meeting with the same team. This goes well beyond the physical device in the room, which, don't get me wrong, is a critical component. Our approach to this space has been a little different. We think that the in-meeting room interaction is just one piece we need to solve for, and we feel we did that very well with our new offering: an all-in-one cloud-connected meeting device that allows for wireless presentation sharing, whiteboarding and integrated conferencing.

But the bigger, and perhaps more important, piece is to connect what happens in that physical space to the virtual space where the real ongoing work gets done. This might be through a series of chats,

or document and whiteboard exchanges, or even audio/web/video meetings.

If the display isn't connected to anything else, the productivity that happens during the meeting interaction isn't necessarily captured and used to drive the conversation and project forward. And, if remote attendees cannot actively participate via video or have the ability to whiteboard remotely through an app, the conversation and overall team productivity will be limited.

To be successful in driving adoption beyond a few niche-use cases, everyone (whether in the room or remote) has to be able to actively engage and be part of the conversation easily. And the user experience across the physical meeting room device and the app must be consistent. This is what will drive adoption.

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Companies are looking for new products and solutions that will help their people become more productive and work more efficiently. They are searching for technologies that will help their employees collaborate with fellow team members wherever they are, creating an open exchange of ideas. The large conference rooms are being chopped up to become smaller "huddle rooms," and teleconferencing and web sharing are quickly moving to videoconferencing with data sharing.

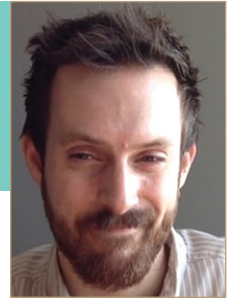
The idea is to make this new work space more efficient while providing the necessary tools to support creativity. But what happens when the technology gets in the way of creativity? Unfortunately, that's what's happening in most cases. Many of these collaboration tools, such as videoconferencing systems and interactive touchpanel displays, have been designed to do so much that the learning curve becomes too great for the corporate user to get past. The result is that no one uses them...they simply don't know how.

We have designed our interactive whiteboards and videoconferencing products specifically for the corporate user. The priority was to make them simple to use, and to provide quick startup and a high level of security. These three simple concepts can make the difference between products that are used frequently and ones that collect dust. Of course, having the most important features is necessary, too.

These include having a wide range of sizes, supporting secure collaboration between multiple locations/viewers, having the ability to mark up and share documents during meetings, writing with a finger or optional pen, and connecting with mobile devices. All these are needed, but only if they are simple and intuitive to use. In order for interactive whiteboards to be adopted, the technology cannot get in the way of the meeting. It must support a positive and productive result, not be an overblown distraction.

END USER

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While we've definitely seen a demand for interactive whiteboarding, it's coming from the users on the far end of a call who are unable to be in the physical room.

Convincing the folks in HQ to actually use the whiteboards is the tricky part, and we haven't yet found anything that's easy enough to roll out. With few benefits for those in the room, our team has found interactive whiteboards to be too uninviting to adopt.

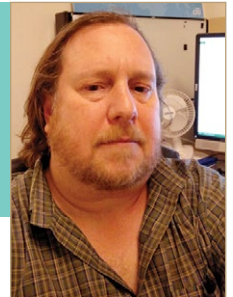
We've had to consistently emphasize simplicity in our conference room AV because we find that the requests for assistance grow with every step you add. "Wait, so how do I connect the whiteboard to the video call? I also press 'share' on the remote when I do? Could you please come and help?" Simple guides with minimal wording and photos don't seem to help when people want to walk into a room and get things started as soon as possible.

With about 35 conference rooms for around 750 people at our HQ, we're thrilled that we've gotten videoconferencing alone to a point where people connect to calls easily without the assistance of our AV operations team. Introducing 35 whiteboards just doesn't pass a cost-benefit test operationally, even if we ignored the financial implications. And, no, we haven't found that we can add a special feature in one room without it being confusing or desired by those looking for "that one room with the whiteboard thing our remote manager makes us use."

Easy, standardized, VC-equipped huddle rooms are what our users are asking for above all other AV requests. If this were 10 years ago and our local team focused on running four white-glove rooms rather than maintaining an IT infrastructure for 35 of them, maybe we could set up these whiteboards ourselves. However, that's not the case, and this would be adding a new infrastructure to maintain. I feel for those on the far end who miss out on occasional in-room whiteboarding, but I haven't yet seen a solution that would actually help them out, regardless of the cost, and we have been looking.

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It seems that, every couple of years, we get business requests for electronic whiteboards, and each time, the delivered solution falls short of user expectation. But why? Did the product not work well? Was the technology too complex? Was the experience frustrating?

Many enterprise conference rooms today are outfitted with high-quality audio and videoconferencing systems. Users with PCs have become very comfortable sharing content locally and to remote sites, as well. The technology is quite good and has become ubiquitous and accessible. However, one important part of the in-person interaction

is still missing from calls: the ability to simultaneously write, draw and create collaboratively with remote participants.

Interactive display technology has been improving rapidly. There are many new products on the market with attractive prices and promises. Pen accuracy is better, latency is lower, but the experience is still far from the simplicity and feel of the marker and whiteboard. Clicking to navigate between tools to draw, move objects, erase and undo are not that intuitive during a presentation.

At one time, while I was promoting an interactive whiteboard solution at my firm, I became quite skilled with the technology. Along with a remote colleague, I would demonstrate the collaborative process by designing a VoIP network for intrigued onlookers. The demonstration was very slick. The technology seemed quite impressive.

Unfortunately, the reason it looked so good was because it was so well rehearsed. Later, trying to use the same technology on a new, real work effort proved much more awkward and difficult. Doing real work and trying to look good doing it using this technology is not easy.

So yes, we do need good collaboration tools. The technology has to work, but the user experience has to be simple and the users have to be well practiced. The kind of mastery required for the boardroom only comes with regular usage.

A typical user may not be ready or comfortable using this technology in a formal meeting environment, especially one where presentation has priority over brainstorming. Creative thinking while working and collaborating is not always pretty. I fear that the new interactive display technologies being introduced into the typical conference rooms in corporate America may once again go unused, and be that way for the wrong reasons.

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Electronic whiteboards have introduced fantastic new capabilities to the original blackboard, but have been almost entirely a failure in business communications. Their failure is due to low adoption, complexity and high cost.

There is a genuine appetite for whiteboards among business people. The evidence of this is plentiful. Drawing ideas as a way to communicate and develop them is a popular method in design thinking, whiteboards are a common element of new open-plan office spaces, and flipcharts and markers are a permanent part of the audiovisual and meeting space inventory. Perhaps our devotion to whiteboards comes from our early experiences with chalkboards in school or even earlier ancient times when students in Babylonia and Sumeria inscribed their lessons on clay tablets with a stylus.

Conventional whiteboards are successful for their simplicity, effectiveness, economy and ease of use. Additionally, it is now simple to take a picture of a whiteboard with your phone for future reference.

The new generation of electronic whiteboards is building upon the simplicity, effectiveness and ease of use of conventional whiteboards and bundling them into a new all-in-one unified communication/business collaboration/conference room appliance. This new category of electronic whiteboards, with their many capabilities, has great appeal for business communications.

The new electronic whiteboards claim to provide everything required for collaboration. Facilities and conferencing management teams see them as an alternative to the fog of audiovisual integration for many small and medium-sized conference rooms. Ideally, they will enable ease of deployment, training, support and maintenance.

Meeting participants will see them as a way to enrich business communications and to create a consistent and engaging experience for remote attendees. This is dependent on ease of use and a pricing model that promotes widespread adoption.

I believe that the new generation of electronic whiteboards will succeed only when manufacturers deliver the trifecta of ease of use, reliability and high value, and also when business customers apply IT service management to the rollout of this new category of communication tools.



Calendar

June 10-16
InfoComm17 (www.infocommshow.org)
Orange County Convention Center, Orlando FL

June 25-28
ISTE 2017, Int'l Society for Technology in Education (conference.iste.org)
Henry B. Gonzalez Convention Center, San Antonio TX

June 26-29
HITEC 2017, Hospitality Financial & Technology (www.hftf.org)
Metro Toronto Convention Centre, Toronto, Canada

July 17-20
Campus Technology 2017 (www.campustechnologyconferences.com)
McCormick Place, Chicago IL

September 5-9
CEDIA 2017 (expo.cedia.net)
San Diego Convention Center, San Diego CA

September 24-28
2017 BICSI Fall Conference & Exhibition (www.bicsi.org)
Mandalay Bay Hotel & Casino, Las Vegas NV

October 10-12
WFX 2017 Worship Facilities Conference and Expo (www.wfxweb.com)
Kay Bailey Hutchison Convention Center, Dallas TX