

# THE NEW GAME-CHANGING INTERACTIVE DIGITAL DISPLAYS

Next-generation interactive digital displays are offering new features, much better TCO, and seamless integration into the existing technology platforms in your meeting room or classroom. Here's how to evaluate the best solution for your organization.

Presented by

**SHARP**<sup>®</sup>

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# THE NEW GAME-CHANGING INTERACTIVE DIGITAL DISPLAYS

Next-generation interactive digital displays are offering new features, enhanced total cost of ownership (TCO), and seamless integration into the existing technology platforms in your meeting room or classroom. Here's how to evaluate the new interactive displays and decide if they are right for your organization.

## INTRODUCTION

The classroom, corporate meeting and unified communication space have long been the testing ground of projectors and displays. The video projector and the digital white board were introduced some years back and now large-format LCD and LED-based interactive displays are addressing the need for collaborative tools with new-generation interactive digital displays. Once monopolized by video projectors, education and meeting spaces are now seeing an influx of new interactive digital displays that are offering better prices, improved total cost of ownership, higher resolution, and new compelling feature sets.

But with the introduction of many providers into the market and the ever-evolving list of user needs there is as much confusion over what constitutes best practices in choosing and using interactive displays as there are technology providers. This paper will attempt to help integrators and end users assess and purchase a new interactive display system. A key part of that analysis will be to separate interactive display vendors into those with closed-system solutions that require the purchase of all new proprietary products, software and peripherals, compared to new-generation "open architecture" interactive white board offerings that let the user adopt "best of breed" components from their favorite sources while continuing to use their existing and IT department-approved peripherals and software.

## Collaboration: The Need for Robust Interactive Solutions

There are as many interactive display needs as there are schools, universities, corporate departments, training facilities and small businesses. For classroom education, corporate project collaboration, training and remote collaboration, interactive displays let students, staff, or employees share data and graphics in real time. And the best systems let them do that while using their own familiar and IT-approved software tools and existing peripheral equipment. Key to this trend is the proliferation of "BYOD" where different users can "bring your own device." The BYOD trend is especially prevalent in the university setting where hardware is less standardized, but this trend is now seen in corporate campuses as well.

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## Sales Trend of 55"+ Commercial Displays with Integrated Touch Sold through US Channels

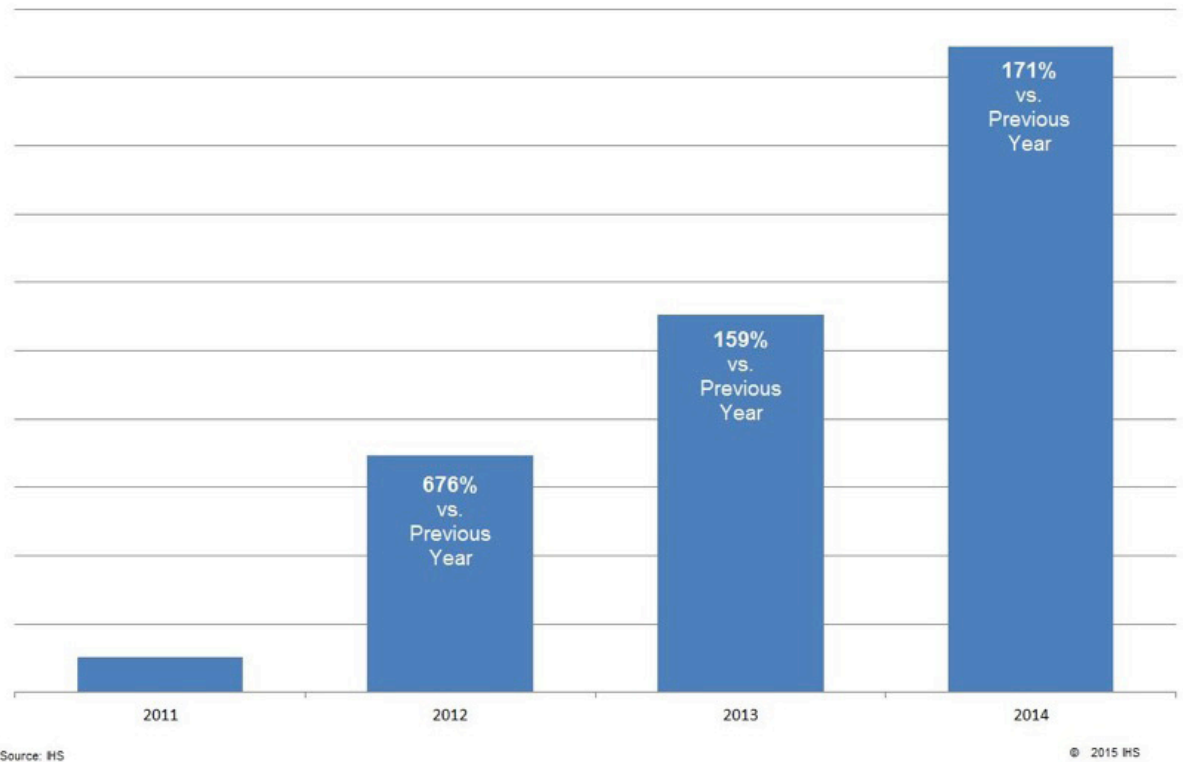


FIGURE 1: Shipments of interactive displays with interactive touch capability are growing, year-over-year, at a tremendous pace. (Source HIS.)

Whatever the reasons that launched the BYOD trend initially, collaboration tools for the classroom, boardroom, meeting room, or any space now must work seamlessly for a variety of users all using different laptops, smartphones, tablets and more.

Worldwide, more than \$4 billion was spent on digital displays and projectors (both interactive and non-interactive) for the Education market alone. With more than 1.5 billion students worldwide learning in more than 34 million classrooms, it's no wonder this new generation display and interactive technology is rapidly proving to be a key facilitator of better teaching and better learning. (See Figure 1.)

What's driving this proliferation of interactive display technology in education as well as work environments? Better AV equipment performance, smaller footprint for the equipment in crowded and/or small rooms that have to accommodate many students or attendees, equipment and software costs lower than in the past, and a move to open architecture solutions are factors.

Add the increases in network bandwidth combined with the excitement of the interactive digital experience—and digital interactive technology is now everywhere people meet for education, training, or business productivity—both in person and remotely. As prices have come down and displays have become more user-friendly, and more importantly more IT-friendly, there has never been a better time to add collaboration tools to your space. But there has also never been so much confusion about which products to choose. There are many possible pitfalls for the inexperienced, so it's crucial to understand the right questions to ask when selecting a new video wall system. That's the first step in considering this exciting new technology for your project.

Here's an overview of some of the major interactive display technologies to help you decide how to identify the right solution for your particular need.

## THREE INTERACTIVE DISPLAY TECHNOLOGIES, K-12 EDUCATION - USA

By 2016 / 2017 The Three Technologies Will Have Similar Sales

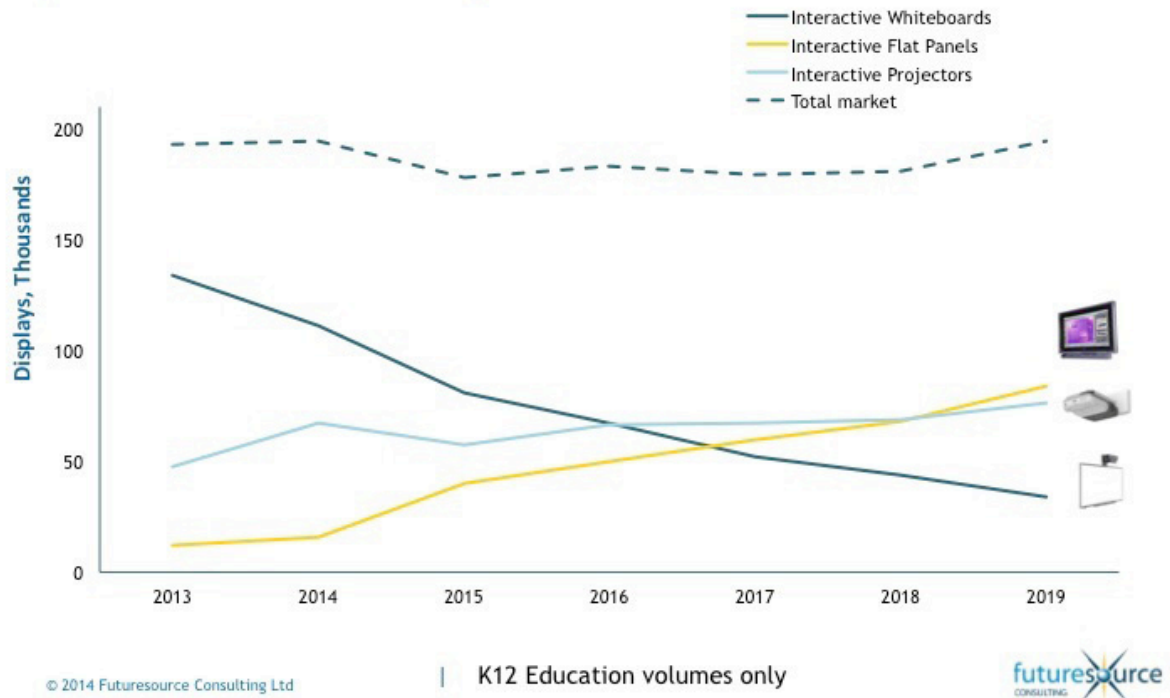


FIGURE 2: For the classroom/education market, interactive flat panel displays are rapidly overtaking the sales of both video projectors and interactive whiteboards.

### Interactive Displays– the Choices

Once monopolized by video projectors, the classroom, corporate meeting room, and unified communication spaces are now seeing many new-generation displays enter the market. (See Figure 2.)

#### Video projector-based solutions

Video projector-based solutions are still available in the market, and new generation lampless projectors are offering better TCO (total cost of ownership) than in the past (based on fewer or no lamp changes over the life of the projector). But video projectors installed in a classroom or a meeting room typically require wiring and/or mounting equipment in the ceiling, lamp changes and other maintenance. And historically video projectors have not incorporated interactive features as quickly and easily as have flat panels. Projectors also have the added disadvantage of producing a dimmer image on the screen when compared to direct view LCD and new generation LED panels so that “dimming” or turning off of the room lights is needed for optimal visual performance (and this darker room requirement can result in loss of audience attention and audience engagement.).

#### Interactive whiteboards and interactive digital displays

Many users are now gravitating toward value-based interactive LCD panel displays and LED-backlit interactive LCD displays (often shortened by the industry to “LED displays”), either integrated with touch technology, with a touch overlay, or with other gesture-based interactive technologies.

Typical of this trend is Caldwell University which has installed more than 35 AQUOS BOARD™ interactive display systems from Sharp. “Implementing the AQUOS BOARD displays has been an exciting project because of their impact on everyone across campus,” says Don O’Hagan, Chief Information Officer at Caldwell University. “From the President’s Board Room to the classroom, the conference room, the

# THE SHARP AQUOS BOARD DISPLAY SOLUTION

THE AQUOS BOARD INTERACTIVE DISPLAY SYSTEM, THE STATE-OF-THE-ART INTERACTIVE DIGITAL DISPLAY FROM SHARP, IS DESIGNED FOR APPLICATIONS SUCH AS:

- Classrooms
- Boardrooms
- Huddle rooms
- Videoconferences and Teleconferences
- Training
- Digital Signage: Wayfinding, Donor Boards, and more.

Sharp has taken an “open platform,” open architecture approach with the AQUOS BOARD interactive display system, that lets the user adopt “best of breed” components from their favorite sources while continuing to utilize their existing and IT department-approved peripherals and software with the AQUOS BOARD display. And key to the Sharp philosophy is that users adopting new interactive digital display technology should not have to expend time and money for vendor-required software licensing for all of their staff. The AQUOS BOARD display runs on your existing Windows OS and peripherals.

There are three sizes to choose from: 60” Class, 70” Class and 80” Class. With screens up to the 80” Class (80” diagonal), Sharp AQUOS BOARD interactive digital display systems offer HD clarity to help make presentations come to life.

And the AQUOS BOARD display is tied into the operating system’s human interface level. As such, it is compatible with virtually any software or peripheral. With 10-Point Multi-Touch, Multi-User capability (up to four simultaneous users), and faster touch refresh rate that provides smoother writing, use of the AQUOS BOARD display is intuitive and responsive to the fast-moving collaborative environment.

The AQUOS BOARD display is fully compatible with the Microsoft® Office™ “inking” function, so users can natively annotate within any Office application, without the need for additional software or training.

For more information and complete features list for the AQUOS BOARD display from Sharp, visit:  
<http://siica.sharpusa.com/AQUOS-BOARD>

athletic teams and facilities and even to the university’s distance learning centers there isn’t a student, faculty or staff member that doesn’t have a fingerprint, literally, on these boards.”

Acquisition cost is of course a key factor in TCO for a display. And while standard mid-level lumen output projectors may cost less than a competing flat panel display at the time of purchase, the high cost of projector replacement lamps and installation costs (installation of electrical receptacles in ceilings, wiring and ceiling mounts) means that the market is getting to a point where the TCO of flat panel solutions is compelling. And cost is not the only factor here. Direct view LCDs and LED interactive displays have other benefits including ease of use, less heat emissions, and worry about students, presenters, or other attendees blocking the projected beam of a video projector. (Alleviating the projected beam problem of video projectors can be achieved by using short-throw projectors, but at a premium price.)

And beyond the world of video projection, the technology of the flat panel interaction has now moved well beyond the “white board.”

Today’s interactive digital displays feature multifunction touch response supporting multiple touch points, annotation and collaboration functions that let multiple users annotate simultaneously, touch pen options, ability to capture/display the screen contents, videoconference visibility and more.

And the best interactive digital display solutions offer digital signage functionality if needed, such as converting the displays for a special event into an interactive Wayfinding or Donor Wall display in the lobby of a school or business.

## Interactive Digital Displays: Closed vs. Open

The digital white board was introduced into the market some 15 years ago. And today's iterations of the digital white board as well as some interactive displays, while incorporating advances such as Windows-based operation and videoconferencing and multi-touch, are still based on the model of single-vendor, "one size fits all." Whether from the legacy vendors extending their products with new features, or new entrants in the interactive display space, these products are based on the "closed architecture" model: the user needs to "buy into" the entire system from that one vendor, whether it be proprietary annotation software, proprietary cameras for videoconferencing, proprietary codes, etc., in addition to the flat panel or projector-based display.

And these "closed architecture" systems can require extensive training to use them properly, as they do not fit easily, right out of the box, into a multi-device Windows® environment or into new BYOD environments or new cloud-based videoconferencing environments.

For those wanting to leverage their existing investment in collaboration equipment and also wanting to not have to go through more rounds of having their IT department approve new additions to the network or classroom/meeting space, the alternative of an "open architecture" interactive white board is compelling. Such interactive displays based on an open architecture model are proving to be the best way to seamlessly integrate new advanced interactive display solutions into the organization, at a more modest cost, while simultaneously taking advantage of existing best practices within the user's organization.

Many schools, universities, or businesses have already invested in videoconferencing gear, for example, and are not keen on having to invest even more on the add-ons required if they purchase a "closed architecture" interactive display. An example is when the closed architecture display solution requires the purchase of several proprietary cameras for videoconferencing, while the open architecture solution lets you use lower cost, off-the-shelf cameras that the organization already has in use or can purchase at a lower cost.

Indeed there is a trend toward more open architecture interactive display solutions. Users and technology managers in K–12, higher education, and corporations are moving to leverage their existing investment and more seamlessly integrate any new technology with their other platforms and systems rather than create more technology islands.



To accommodate the changing needs of its digitally mobile student body, Caldwell University installed approximately 35 Sharp AQUOS BOARD interactive display systems and more than 30 Sharp displays and monitors across its campus. The interactive displays have greatly enhanced collaboration among the students and faculty.

## Critical Features of a State-of-the-Art Interactive Display System

When you start the selection process for an interactive display system, ask your vendor if you can “test drive” the system. You need to both try out features, and make sure the feel of the system is right for you. Beyond the features as described in spec sheets, you need to know how fast the display responds to your touch. Does it feel fast and responsive?

Here are some of the core features to look for, and the right questions to ask when you're in the process of selecting a high-quality interactive display system.

- When you choose your interactive display brand, choose a display provider that offers a range of sizes. One size does not fit all. Does the vendor offer a wide range of screen sizes?
- Is the interactive display brand you are considering a “closed architecture” product? Or is it an open architecture solution that will integrate smoothly with your existing videoconferencing, cameras, software and other equipment?
- Does the brand of interactive display you are considering have Windows embedded, or does it let you run the displays from your own OS that's already approved by your IT department?

- Will the purchase of the interactive display also require proprietary annotation software, proprietary cameras for videoconferencing, etc, in addition to the flat panel or projector-based display for the system to work optimally?
- Will the interactive display vendor require software licensing for all of your staff, adding costs?
- Is annotation and collaboration software included in the price of the interactive display?
- Does the interactive display use a third-party touch overlay for the multi-touch functions, or is it integrated into the design of the interactive display from the start of design/engineering?
- Will your staff need training to operate the interactive display?
- Is the brand of interactive display you are considering from a vendor that offers only Android™ platform-based display/software packages, or is it based on a more Windows friendly platform?
- For multi-touch interactivity, how many touch points will the display support?
- How many users can use the interactive display simultaneously?
- Will the interactive display work in a BYOD (bring your own device) environment?
- Will the interactive display perform digital signage functions if needed? (Such as turning the displays, for a special event, into interactive wayfinding or donor wall displays in the lobby of a school or business, for example.)

## Conclusion

Interactive digital displays based on an open architecture model are proving to be the best way to seamlessly integrate new advanced interactive display solutions into the classroom or meeting room. More and more organizations are doing this at a more modest cost, while simultaneously taking advantage of existing best practices and existing AV and videoconferencing equipment and software investments in the user's organization.



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## About Sharp Imaging and Information Company of America

Sharp Imaging and Information Company of America is a division of Sharp Electronics Corporation. Through U.S. B2B sales channels, Sharp is one of the top selling brands of Large Format Displays (55"+) and is the #1 selling brand of Large Format Commercial Displays integrated with Touch (55"+).\* Sharp's professional and commercial displays are specially engineered for business applications and are offered in a wide range of sizes. From high-impact displays for digital signage, to our award-winning ultra-thin bezel video walls, to the innovative AQUOS BOARD™ interactive display systems, Sharp products help you communicate, collaborate, and disseminate information brilliantly.

For more information on Sharp's energy-efficient products, contact Sharp Electronics Corporation, 1 Sharp Plaza, Suite 1, Mahwah, N.J., 07495-1163. For online product information, visit Sharp's Web site at <http://siica.sharpusa.com>.

\*According to the Monthly Large Format Commercial Displays Report, April 2015 by DisplaySearch, now part of IHS.

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