

# Educators demanding Interactive Flat Panel Displays

*Guy Monty*

Looking back at 2015 there was a lot of hype in education surrounding large-format touchscreens or, more technically, Interactive Flat Panel Displays (IFPDs). You had only to visit any major education conference and it seemed that around every corner you were met with a large format touchscreen vying for your attention.

Being confronted by a sea of touchscreens can be both overwhelming and confusing, compounded by the fact that both global and generic brands products may, initially, seem similar without closer inspection and broader thinking applied. The fact of the matter though is the hype is well deserved as the numbers indicate IFPDs are sought after by educators. As prices continue to decline on larger sizes and with continual improvement of features many more schools are set to make the jump in 2016.

According to the last global interactive display report from Futuresource Consulting, released in May of last year, the market has seen unprecedented growth with a staggering 41% (YoY) growth with 300,000 displays being shipped in Q1 2015 alone.

Global research indicates IFPDs have now emerged as a must-have device due to their clear benefits; significantly enhanced engagement, efficiency and collaboration and improved education outcomes, not to mention the massively increased lifespan over alternative solutions. IFPDs offer low total cost of ownership with the added benefit of no ongoing maintenance being required.

Asked to comment on the Australian Market, Colin Messenger, senior analyst from Futuresource Consulting who helms the worldwide interactivity displays research programs, said "There are over 150,000 Interactive Displays in Australian schools, the penetration rate is high at 56% of classrooms having an interactive display. The first Interactive Whiteboards were installed in 2005 and growth accelerated quickly. The recent trend is for Interactive Flat Panels and they have just started to replace some of the early Interactive Whiteboards."

The increase in demand seems to have coincided with both the Interactive Whiteboard (IWB) replacement cycle as well as increased focus from the global brands in



this product category, resulting in increased commoditisation as well as product innovation, both very attractive for schools looking to move away from older technologies.

It should be mentioned that IFPDs have been available in Australia for a number of years and up to relatively recently the market was akin to the wild west where lack of representation by the global vendors initially meant that the vast bulk of first-to-market products were generic brands imported by business savvy resellers positioning themselves at the frontier, proactively engaging Australian buyers with their locally branded offerings.

These sellers rightly anticipated the trend and imported early generations of products directly from assembly factories in China or Korea. To their credit, a few were quite successful in promoting IFPDs as the successor to IWBs. In doing so they accelerated awareness, creating demand for the alternative front-of-classroom interactive display while the multinational juggernauts were sidelined, mired in development of their offerings, and slowed by the rigid processes involved in their bringing new products to market.

Schools were tired and frustrated with their

ageing IWBs and the need to frequently replace lamps and projectors and were hungry for an alternative, resulting in generic sales making up the first boom of touchscreen sales in Australia. Simply put, there was no real viable alternative till recently and those products met a demand and set the scene for the inevitable succession of major brands.

Fast forward to today and the pricing gulf has been significantly reduced between major and generic brands, and with global vendors offering feature-rich solutions, more and more customers are choosing to pay a premium to acquire products that provide them with the peace of mind that comes from buying a product from a name brand.

Since this product category is maturing, certain features are becoming standard as some interesting new features are being introduced as the big brands fight it out for market dominance, providing increased innovation in the process. The question of what features are the most desirable now comes into focus. Following are a number of recent trends and new features that will become available over the course of this year as well as some logical assumptions moving beyond 2016.

### 75–80 inch sizes

There are some recent offerings that have entered the market with many other brands to be following suit during the course of 2016 in both HD and 4K UHD models. The existing, smaller sizes are most definitely still here to stay but the width of these sizes is more in-line with the width of the interactive whiteboards that IFPDs typically replace and some schools are willing to pay the premium for this increased screen real estate. The 84 inch jumbo screens, which are often the flagship models of most ranges, will also continue. Larger sizes seem unlikely this year.

### Increased screen durability

The main trend in the IFPD screen surfaces in 2015 was that anti-glare became standard. Scratch resistance 7H hardened glass, while currently available, is certainly not a mainstream feature – this may gradually become more of a standard with the major brands over time. On a separate but related note there is at least one brand releasing screens in 2016 with anti-bacterial properties.

### Blue light reduction

IFPD models emerged in 2015 with this as a feature. The concept is that hazardous blue light emissions are filtered out, reducing digital eye-strain and assisting in the prevention of serious eye conditions like macular degeneration that are believed to be increased by prolonged daily usage of LED backlit screens. There are currently a limited amount of brands offering this but more should emerge with this technology in 2016.

### Increased points-of-touch

2015 saw many vendors transition from six simultaneous touch-points to 10. This year, brands will be offering 20-points of touch, and one brand is already boasting their range will feature 100. How much of this is user driven demand is debatable, however it is an obvious progression for manufacturers looking to differentiate themselves.

### Higher pixel density

FHD resolution, the most common IFPD resolution is already a massive leap forward from interactive whiteboard projector resolutions. At

the moment the emerging trend is that 4K UHD, once only available in the largest sizes, is now starting to trickle down to smaller sizes for a premium over the cost of HD resolution models. Over time, 4K UHD will become the standard resolution as HD is currently. The increasing output resolutions of laptops and small-form-factor PCs may accelerate the adoption rate as will uptake of IFPD for high-end graphical applications such as use with CAD software.

### Slot-in PCs

Optional slot in PCs are available on most screens now, with slots for either OPS (a digital signage standard developed by Intel) or proprietary systems. Pricing should fall as processor prices drop, so faster and less expensive will be the rule, the move to solid state based storage will also become more prevalent as prices on SSD storage continue to drop.

### Digital pens

Again, this has been available for some time but the ability for user-assignable buttons to program different colours, pens widths etc. as well as presets and shortcuts is practical for certain users and there are a few brands incorporating this as an optional accessory for upcoming ranges.

### Multi-Screen

Although there are only a limited number of units with this capability, there are solutions offering the daisy chaining of up to three screens to increase your total canvas size dramatically. The concept of connecting two-screens means doubling your canvas size, and over time this may prove to become desirable where dual screen would be of benefit and three-screens can be thought of as creating an impressive touchscreen wall. Some additional brands may end up offering this functionality but it is currently quite limited.

### Projected capacitive touch

This is essentially based on the technology used in smartphones and tablets, and will become the third technology joining optical and infrared as the key technologies behind how touchscreens recognise user input. The benefit is the technology requires no bezel and therefore features edge-to-edge glass, which some may

find more attractive from a cosmetic perspective. This may initially have far more impact in other vertical markets. In the future, it is reasonable to presume that pressure sensitivity may end up incorporated into this technology too.

### Haptic technology

Haptic technology is out there right now with Apple leading the charge across many of their products. It is based on capacitive touchscreen technology with vibrating haptics underneath. The key concept that variants in touch pressure can trigger various functions and levels of control with the user receiving tactile feedback. Given that haptic technology is only now coming out in smartphones and smartwatches it anticipated to be several years before this functionality makes its ways to IFPDs.

Interactive Flat Panel Displays are one of the most exciting product categories on the market. Up to now schools have certainly led the way in adoption but, IFPDs will start showing up progressively in all industries as a tool for training, collaboration, content creation and presentations. Independent software developers are also recognising that large format interactivity is here to stay and are as exciting a form of human-computer interaction as smartphones and tablets have been. The touch computing revolution continues.

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