



## T E C H N O L O G Y   S P O T L I G H T

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# Curved Ultrawide Monitors: Seeing the Big Picture

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*Curved display panels have been available in the market for several years now, particularly for TVs. Now the technology is increasingly being leveraged in PC monitors as well, presenting a whole new experience — notably different from the TV world — for users, especially from a productivity scenario.*

*This IDC Technology Spotlight examines the features and advantages of curved monitors, particularly larger ones in a 21:9 aspect ratio, also known as ultrawide. This is explored mainly from a perspective of professional usage in a variety of vertical industries and functions, based on both primary and secondary research that IDC conducted in July and August 2015.*

### **Situation Overview**

#### ***The Need to See More and Do More***

Multitasking is a fact of professional life today. Regardless of specific function or vertical, it is common for employees to constantly switch between basic applications such as email, browser, messengers, productivity software, enterprise resource planning (ERP) systems and vertical-specific applications on their PCs. Some specific functions like finance may even need to view a large number of columns in a spreadsheet, while other functions like application developers need to see code sitting side by side with their testing environment.

All these tasks tend to work best on large screens which allow users to be able to see and do more at the same time. The reality is almost half of all PCs procured by IT departments around the world now are notebooks and this is a figure that has been steadily rising over time. The relatively smaller screens on these notebooks mean that users are constantly having to scroll or switch between applications which can impact productivity and efficiency.

#### ***Not All Monitors Are Created Equal***

Of course, one way to address this is to connect notebooks to external monitors to provide more screen real estate. In some cases, multiple monitors may be used, perhaps in a v-shaped or even u-shaped configuration, although users have to get used to a bezel sitting in between the various monitors.

Conventional 16:9 aspect ratios, however, still present some limits, with users often having to toggle between applications. A 21:9 aspect ratio, on the other hand, provides much more contiguous real estate to the user, and fortunately more and more of such ultrawide monitors are now entering the market.

Still, not all 21:9 monitors are the same. Indeed, IDC found during its centralized location testing that using a flat panel on such a wide monitor can often be tiring on the eyes, as it requires users to strain to see information on the far left and right sides of the screen. This is where the beauty of curved monitors comes in. IDC has found that a curve is particularly important when using a single 21:9 monitor, as this helps to ease strain on the eyes when users look at information displayed on the sides of the screen.

## **The Curved Ultrawide Experience: Different Users, Different Needs**

In July and August 2015, IDC conducted a centralized location testing in Singapore using both a flat and curved monitor of the same 34" size and 21:9 aspect ratio, with brand names hidden to reduce bias from respondents. The curved monitor used in the centralized location testing was a Dell U3415W, a 34" curved monitor with an Ultra WQHD (3440 x 1440) resolution. This was also tested against a competing 34" monitor of the same resolution from another brand, but on a flat panel. The respondents represented over ten different vertical industries, ranging from large global multinationals in the fast-moving consumer goods (FMCG), services and architecture sectors to smaller designers, application developers and photographers, among others.

### ***Key Findings and Benefits***

The common theme that resonated across all of these respondents was the tremendously improved ability to see and do more simultaneously with a 21:9 curved monitor compared to the setups that they currently have, thus allowing them to be much more productive and efficient. Professionals like finance and accounting as well as creative professionals found the most benefit in the IDC study, especially by being able to lay out multiple windows without scrolling or task switching.

On the aesthetic and design front, most respondents consistently commented on the Dell product's attractive industrial design and build quality. The matte screen was also generally preferred over the competing flat display from the other vendor, which tended to use chrome finishes instead.

The use cases varied by specific roles and vertical industries, with examples summarized below by vertical function.

- **Financial Analyst:** A financial analyst in a global software and services company was previously using one external monitor with her notebook to review contracts, check data and then type emails, requiring constant task switching. She worked with multiple columns and data, requiring scrolling, grouping, pivot tables to condense the data, but with a 21:9 curved screen she could see it all in a single glance without any horizontal scrolling required.
- **Credit Analyst:** Similarly, a credit analyst at a global FMCG company needed to constantly toggle between Excel, SAP and other applications to check customer accounts, orders and shipments. One common task for her was to compare records across applications. Using a 21:9 curved monitor, she could now lay the windows out side by side without task switching, calling the whole experience "fantastic".

- **Software Developer:** One software developer tended to run four to five applications simultaneously, including Visual Studio, Eclipse IDE for Java, plus a web browser, email client and other applications such as messaging. His current setup leveraged three separate 16:9 displays, but a single 21:9 monitor was much more comfortable for him, particularly with a curve. He particularly liked the ability to be able to view his code while simultaneously compiling and debugging.
- **Architect:** An architect regularly ran 3D and CAD software in addition to basic email and messaging clients. Contrary to what one might think, the curved panel did not create any issues with straight lines and vector art. Indeed, he found the curved panel more helpful than a flat one, as images at the edges of the latter were further away from the eyes, thus appearing slightly smaller rather than being immersed by a curve.
- **Fashion Designer:** Similarly, a fashion designer regularly used both Adobe Photoshop and Illustrator, not to mention Excel, Skype and even a browser to keep tabs on sites like Pinterest. Despite already using a large monitor currently, he immediately appreciated the increased workspace of a 34" 21:9 display, calling it "pretty awesome". He was surprised at how much he appreciated the curve compared to the "clinical" feel of the flat display.
- **Photographer:** A photographer and desk editor at one of the largest global news agencies regularly used Lightroom and Photoshop, together with a browser to confirm his facts used in photo captions, as well as email and messaging clients for communicating with photographers in the field. Despite already having multiple monitors in his current setup, he felt much more comfortable with a 21:9 display without any sense of distortion from the curved screen. Indeed, the flat screen was worse for him as it almost gave a sense of barreling with the edges further away from his eyes.

### ***Considerations and Opportunities***

Respondents highlighted some other considerations during the centralized location testing. A videographer, for instance, was hesitant about working in full-screen mode because his videos tended to be in a 16:9 aspect ratio instead, thus requiring two vertical bars to appear on the sides. Still, he appreciated the display when exiting full-screen mode, thus bringing back the same multitasking benefits, particularly when he was editing videos rather than viewing. And of course, with some movies in a 2.39:1 (roughly 21:9) format, the vertical bars would no longer be an issue.

For curved monitor vendors, opportunities abound once users overcome their preconceived notions about distortion although there isn't any at all. Some users may also be incorrectly applying their perceptions of curved screens from TVs, which is a completely different experience as that is viewed from a much greater distance, and usually in groups at different viewing angles. The benefits of a curved screen, however, are much more obvious when used in a PC monitor scenario, particularly on a 21:9 aspect ratio as it brings the sides of the screen physically closer to the user's eyes.

From an organizational standpoint, particularly IT departments, the challenge would be in change management, as users who are accustomed to a previous setup may take some time to adjust to their new working environment when leveraging curved ultrawide monitors, particularly in terms of how to lay out their windows. Fortunately, Dell provides tools such as the Easy Arrange feature within the Dell Display Manager software to help users easily tile their screens, and IDC also found in its testing that most users were able to adjust within minutes even without the tool.

## Conclusion

While a 21:9 curved monitor can cater to various needs, IDC noted how favorable most responses were during the centralized location testing, particularly for roles that required heavy multitasking. IDC believes that once users become more educated and aware of the benefits (and as component prices fall), it is only a matter of time before 21:9 curved monitors become commonplace in the workplace. Companies and IT departments that get such displays earlier in the game also stand to benefit from the efficiencies in productivity that its competitors won't have.

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