



ETC®
Entertainment
Technology Center

Consumer Entertainment Technology Report

International CES

January 2012

Conference Recap

Introduction

This is the Entertainment Technology Center's post show analysis of the 2012 International Consumer Electronics Show. To access the videos and written reports that were posted live during the show for ETC's Executive/Platinum sponsors, please visit: <http://www.etcentric.org/public/CES-2012/>.

This report was made possible by ETC's executive sponsors:



“The Making of...” the CE Tech Report

ETC assembled a group of dedicated reporters, stringers and volunteers from member companies who each day prowled CES 2012 venues to bring ETC member companies the latest developments in entertainment technology. Reports were made available via ETC's collaborative online destination for entertainment media news and commentary, *ETCentric: The Industry Insider's Exchange*. Working from a pre-determined “hit list,” each reporter was assigned to cover a specific list of new products, services, keynotes and sessions. Simultaneously, stringers from ETC member companies at the show and *ETCentric* readers sent us their list of hot products. Reports, photos and videos were sent to our editor who added more information to the stories and posted them to *ETCentric*. The result was more than 120 postings over a 7-day period (in addition to dozens of pre-show posts). Those stories from the site, rounded out with after-show research and observations, formed the basis for this report.

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We hope you find it useful in putting your finger on the pulse of consumer entertainment technology. As always, we are looking for feedback from you on *ETCentric* and this report. Please send your comments to info@etcentric.org.

Disclaimer

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Executive Summary

The following CE Tech Report provides analysis of the **2012 International Consumer Electronics Show** (CES) held January 10-13 in Las Vegas. Presented by the Consumer Electronics Association (CEA), CES is the world's largest annual consumer technology tradeshow and conference.

Over the course of seven days (including pre-show press events and special presentations), the Entertainment Technology Center tracked the most interesting and breaking entertainment technology news coming out of this year's event. The ETC team reported on new product announcements, evolving industry trends and whisper suite demonstrations via the *ETCentric* site and its accompanying email newsletter, "The Daily Bullet."

To access the ETC reports that were posted live during the show to ETC's Executive/Platinum sponsors, please visit: <http://www.etcentric.org/public/CES-2012/>.

Overview

Despite recent commentaries questioning the relevance of tech conferences in today's fast-paced era of social media marketing – and the emerging trend of product releases that now follow individual company's timelines rather than industry events, the 2012 CES was the largest in the event's 44 year history. The show generated a record 153,000 attendees and 3,100+ exhibitors (last year 2,700 tech companies displayed their products and services).

"The 2012 CES was the most phenomenal show in our history, generating more energy and excitement across every major industry touching technology than ever before," said **Gary Shapiro**, president and CEO of CEA. "CES is the change agent, the catalyst, that brings executives from a wide range of industries together and helps them create better ways of doing business together. The breadth and depth of the 2012 CES, which featured more innovative technology products than anywhere else on Earth, is a testament to the dynamic and innovative global consumer technology industry, which will reach \$1 trillion globally this year."

According to the CEA, more than 20,000 new products were launched at this year's event. The show floor covered 1.85 million net square feet – more than 37 football fields worth of exhibit space.

"More significant than the size is the enthusiasm and the optimism," added Shapiro in a video interview with *Engadget* on the final day of the show. "It's not just the products and inventions themselves; it's the sense that we're moving forward with innovation and it's making a difference – not only in terms of the economy, but in terms of jobs, in terms of the future, in terms of good things for education, information, safety... you name it. We're making a difference with these products."

This enthusiasm has spread to the public. According to the latest CEA Index of Consumer Expectations (ICE), consumer confidence in the overall economy reached its highest point since February 2008.

"Overall sentiment continues to improve as the ICE has rebounded since reaching an all-time low in November," explained **Shawn DuBravac**, chief economist and director of research for the CEA. "Sentiment has improved by more than 13 percent in the past two months, which is a hopeful sign of consumer expectations for recovery in 2012."

It is worth noting that consumer confidence in tech spending dipped in January, which is consistent with traditional post-holiday results. However, DuBravac expects the lull in tech spending to rebound after new models launch in March.

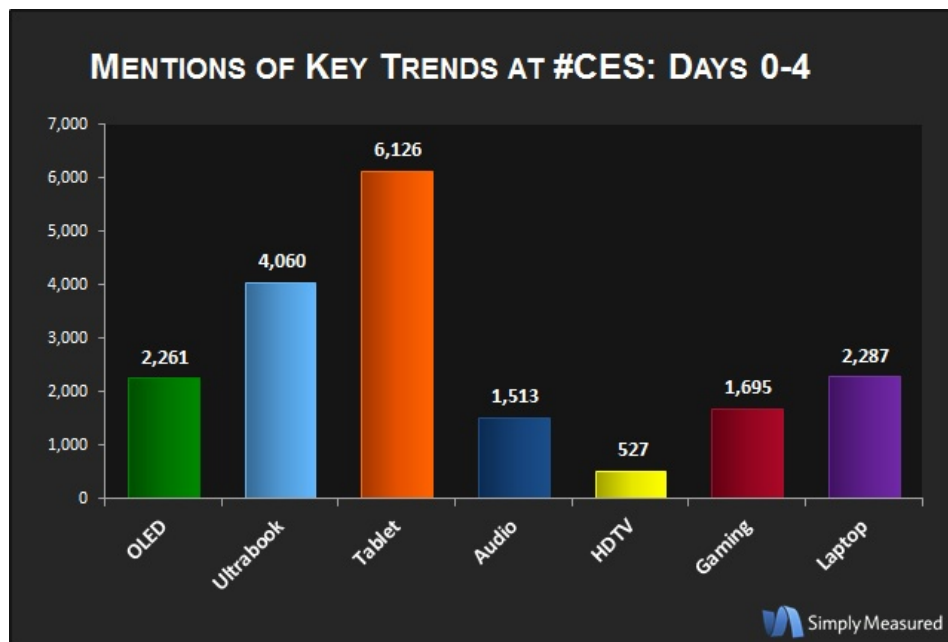
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DuBravac also predicts a number of shifts for CE in the coming year. He suggests that 2012 will be the “year of the interface” with a focus on improving the user experience. “Gesture control and voice control will show up in more and more devices such as tablets during 2012,” he added.

He anticipates the “morphing of computing” in which increased computing functionality will be featured in historically non-computing devices, citing connected Smart TVs and smartphones with quad core processors and 4G LTE as examples.

Social Buzz

The news media paid close attention to social buzz surrounding CES this year. “Tablet devices and ultrabook laptops were the hottest technologies in Las Vegas,” *Mashable* reported. “Microsoft rode an early high as Twitter’s most-mentioned brand but tailed off later in the week. Motorola, meanwhile, started slow but finished strong. And tech news and social sharing sites ruled the list of top-tweeted domain names.”



According to social media analytics published by Simply Measured, tech fans spent most of their time tweeting about tablets and ultrabooks during the show. The word “tablet” was mentioned more than 6,000 times and the word “ultrabook” about 4,000 times with the #CES tag. OLED display technology and laptops also generated a great deal of buzz.

“It’s clear that quick, mobile and connected is where tech is headed in 2012,” commented *Mashable*.

Convergence

Not surprisingly, connectivity and speed were the prominent themes at CES – and perhaps for the first time, software and apps took center stage more so than new hardware. The show was predominantly about connected devices and convenience. We saw this take shape through an array of offerings related to “smart” TVs, next-gen smartphones, ultrabooks, Android 4.0 tablets, even 3D printers.

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Additionally, there was a greater emphasis across multiple business sectors than in previous years. Connectivity, speed and convenience were highlighted in products and services related to entertainment media and communication (as expected), but also targeting household appliances, healthcare, fitness, automotive, education, lifestyle, government, advertising, marketing and more.

“We are witnessing the promised road of convergence with CES as the ringleader,” suggested Scott Burnett, managing director, IBM. “Devices are talking and many different industries are listening, beyond electronics: media and Internet, energy and utilities, telecommunications, automotive, health and well-being companies are migrating to this show. Truly a social media of connected devices is forming, with CES ‘friending’ industries.”

CE Trends

Significant CE technology trends emerged from this year’s show including:

- **Connected TVs are Evolving:** Samsung’s Smart TVs, for example, will feature dual-core processors similar to those found in tablets, allowing for an improved user experience while using apps on the TV. LG has also introduced a dual-core processor for its new interface, while Google TV 2.0 is now integrated into LG’s sets so there is no need for an additional set-top box.
- **Organic Light-Emitting Diode Displays:** LG and Samsung debuted OLED TVs that are 4mm thin and lightweight, coming in at 16 pounds for a 55-inch display.
- **4K Touted as the New High-Def:** Almost all the major CE companies demonstrated a 4K display. Toshiba is expected to offer the first commercial model with its 55-inch LCD featuring autostereoscopic 3D; LG has an 84-inch LCD model scheduled for summer launch. Sharp also had an 8K display on hand.
- **3D had a Strong Presence:** Companies such as Samsung announced that at least 50 percent of their TVs would be 3D ready in 2012. During the "Spotlight on 3D Content" SuperSession, execs from ESPN, 3net, Cameron Pace and HBO discussed plans for bringing 3D content to the home. According to ESPN's Bryan Burns, "the 3D seeds we have planted are really starting to sprout." Panelists cited new technologies being developed to capture 3D and the more reasonable price of 3D sets expected to foster market growth.
- **Gesture and Voice Controls:** Both LG and Samsung demonstrated voice and gesture controls for their connected TVs. Voice and gesture can control channel/volume selection, but also serve to navigate through apps. LG hopes its Magic Wand remote control will provide a more natural experience for users.
- **Alternative Controls:** In addition to an array of voice and gesture recognition systems, CES saw some compelling development in alternative systems. Swedish company Tobii, for example, demonstrated the world’s first eye-controlled arcade game. The company is targeting a broad market with plans to develop it as a touch-less assist for surgeons and license its OEM technology to various CE companies.
- **New Wave of Ultrabooks:** Intel is partnering with a number of computer manufacturers to create lightweight and thin, yet powerful laptops to compete with the MacBook Air. CES saw dozens of ultrabooks including Dell’s XPS 13, Acer’s Aspire S5, Lenovo’s ThinkPad T430u and Samsung’s Series 9.
- **Tablets and Mobile Power:** NVIDIA’s Tegra 3 quad-core mobile process sets the tone for faster tablets that can handle 3D graphics and power hungry apps.

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- **Intel Touts Ivy Bridge:** Intel demonstrated its new 22 nanometer, three-dimensional transistor tech called Ivy Bridge. During his keynote, president and CEO Paul Otellini told attendees, “Moore’s Law isn’t about science, it’s about man’s drive to innovate.” The company announced its 11-inch XPS 13 ultrabook and the Intel-based Lenovo K800 smartphone expected to launch later this year. Intel processors will also be featured in devices from Motorola Mobility thanks to a new multi-year partnership.
- **Development of WiDi:** During the LG press conference, the company announced it would be adding WiDi to its TVs for improved wireless streaming, becoming the first in the industry to do so. LG has an agreement with Intel to incorporate the wireless display tech in its products, including TVs (without the need for an external adapter). Qualcomm had already announced its new Snapdragon S4 SoC devices would feature native support for WiDi.
- **Channelization of the Web:** Not surprising, CES saw some of what we’ve been watching unfold in media delivery of late – a variety of original content and new means of distributing this content online. Robert Kyncl, VP of Global Content Partnerships at YouTube, described during his keynote how video content, distribution and marketing efforts have merged to create a transformative model. By the end of this decade, Kyncl predicts 75 percent of all channels will be transmitted or created on the Internet.
- **Return of the Supply Chain:** According to Stephen Baker of The NPD Group, “while brands are obviously important, this year it felt like most of the noise and excitement at CES came from the supply chain and not the brand owners. Intel and ultrabooks, Android phones powered by Google, Windows Phones, Windows 8, amazing new screen technology from Samsung and LG’s display technology companies, and giant screens from Sharp’s fabs were all the rage and generated most of the interest.”
- **Ice Cream Sandwich – MIA?:** “Some of the most notable things about this year’s show were the products we didn’t see,” reports *CNET*. “Phones bearing Ice Cream Sandwich, the latest version of the Android operating system, were expected to dominate CES this year but were largely missing in action. Instead, 4G LTE, Windows Phone, and AT&T were the real stars of the mobile show. Highlights included the Nokia Lumia 900, the HTC Titan II, the Motorola Droid 4, the Droid Razr Maxx, and the Samsung Galaxy Nexus.”
- **Automotive:** There was a big push from the likes of Audi, Ford and Mercedes-Benz to include enhanced “infotainment” systems in their new cars featuring apps, touchscreen displays, gesture controls, streamlined services and more. Dr. Dieter Zetsche of Daimler AG discussed the Mercedes-Benz “Declaration of Automotive Independence,” calling for the freedom of time, freedom of speech, freedom of access, freedom of energy and freedom of information.
- **Intersection of Technology and Retail:** At the Leaders in Technology dinner, John Donahoe, president and CEO of eBay, discussed how the intersection of technology and retail is already having a significant impact on the consumer shopping experience. He predicts that the next three years of “shopping and paying” will experience more change than seen over the past 10-15 years.
- **Going Green:** To reflect industry efforts, CES is setting an example. “Look at your badge. It’s made from recycled 2011 CES materials,” said Gary Shapiro in his opening keynote. “And all around the show we have companies committed to a cleaner environment. Indeed, this year most major companies agreed to triple their recycling in five years and the industry is committed to a billion pounds in 2016. CEA is sponsoring a challenge to innovators around the world to find new uses for old CRT glass coming back for recycling.”

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CE Outlook

In addition to Gary Shapiro's prediction that global spending on consumer tech devices will surpass \$1 trillion in 2012, CES provided some interesting numbers and themes to watch for in the new year:

- During his State of the CE Industry address, Gary Shapiro projected that the U.S. consumer electronics industry will increase by 3.7 percent in 2012, exceeding \$202 billion. "Last year I predicted sales growth of 3.5 percent. We estimate we actually grew 7.9 percent," he explained, citing innovation as the key to global industry and economic growth.
- According to the latest CEA Index of Consumer Expectations (ICE), consumer confidence in the overall economy reached its highest point since February 2008. The ICE was 177.3 in January 2012, up from 170.7 in December 2011. It is also up from 175.7 in January 2011, which was the highest point for the index in 2011.
- Last year, CEA's chief economist Shawn DuBravac claimed: "Without doubt, 2011 will be the year of the tablet." He suggests that 2012 will be the "year of the interface" – with a focus on improving the user experience.
- "In the last few years we have seen apps like email, Twitter and Facebook on CE devices like TVs," said DuBravac. "Manufacturers wanted to show these properties because it said to consumers that the product is connected. But the experience is generally poor. The next focus will be on improving the user experience."
- Companies are also expected to replace *complexity* with *simplicity*. A compelling product at CES was the LG Magic Wand remote control that uses gesture control (and possibly voice control soon) in order to provide a more natural experience for users. "Gesture control and voice control will show up in more and more devices such as tablets during 2012," predicts DuBravac.
- "The average household today has about 25 consumer electronics products. The next step is taking advantage of those devices with interconnectivity," said DuBravac. "This means starting to capture the vast volume of digital assets we have created, whether that is professional video or music content or self-generated, and to begin to organize them so we can search and discover them."
- In his keynote, Hans Vestberg, president and CEO of Ericsson, discussed "The Networked Society" that will connect everyone (and everything) through mobility. "We have a responsibility to build networks that can carry innovation," stated Vestberg. Ericsson predicts there will be 50 billion global connected devices by 2020.
- DuBravac on Smart TVs: "We have had 50-plus years of TV, but now it is increasingly behaving like a computer with apps and the capability of a browser. In 2010, 12 percent of all TV units shipped were Internet capable, and by 2012 we expect nearly half of all TVs that ship globally will be connected TVs. That is a pretty phenomenal rate of change."
- According to comScore, Amazon's fourth quarter growth of 35 percent more than doubled the overall e-commerce market growth, which increased 14 percent in Q4. *AllThingsD* posted several notable findings from comScore's report: 1) "The fourth quarter represented the ninth consecutive quarter of positive year-over-year growth, and fifth consecutive quarter of double-digit growth rates;" 2) "For the entire year 2011, U.S. retail e-commerce spending reached a record \$161.5 billion, marking a 13 percent increase from 2010;" and 3) "The categories that grew by at least 18 percent year over year: Digital content and subscriptions, jewelry and watches, consumer electronics, toys and hobbies, and computer software."

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CE Outlook

- CES 2011 saw the launch of more than 80 new tablets, despite Apple's domination of the fledgling market with its iPad. This year, the tablet buzz shifted to ultrabooks. "Intel has thrown a lot of money into the new category, hoping to bring some sexy back to Windows PCs now that the Apple MacBook Air has shown consumers what a fully capable and truly portable laptop can be," according to *PCMag*. "Intel isn't alone in thinking big about these little PCs; analysts at IHS speculate that ultrabooks will make up 12 percent of the laptop market this year, and that by 2015, the number will grow to 40 percent. Looking at the slew of new offerings and the unexpected number of innovations [at CES], we can't help but wonder if this estimate is a bit low."
- The surge in mobile apps has led to a surge in jobs. Dubbed as the "app economy," it's been calculated by TechNet that an estimated 466,000 jobs have been created in the U.S. in the last four years (since the 2007 launch of the iPhone) in mobile software. *CNET* reports that the "total includes jobs at a business like Zynga, which creates Facebook apps, as well as app-related jobs at companies like Electronic Arts, Amazon, and AT&T. It also naturally covers jobs at top app players such as Apple, Google, and Facebook."

[CE Industry to Reach Record-High Revenues in 2012](#)

Mobile Connected Devices Driving Overall Industry Revenues

CEA issued a press release in January that included the following projections:

- Tablet computers are the fastest growing category in CE history and will continue to see strong growth in 2012 with a projected 37.6 million units being shipped, an increase of 28 percent, resulting in \$18.3 billion in revenue.
- Smartphones will continue to be the primary revenue driver for the industry. Smartphone unit sales will increase 24 percent in 2012 with 108.8 million units projected to ship, resulting in \$33.7 billion in revenue.
- Laptop sales continue to rise as unit sales will increase to 23.5 million units accounting for \$15.2 billion in revenue in 2012.
- Television displays remain a crucial category to the industry's bottom line. However, with household penetration rates of HDTVs near 70 percent, display revenues are projected to drop to \$17.2 billion in 2012. Within the television category, innovations like 3D and Internet connectivity continue to be a bright spot. Sales of TV sets with 3D functionality will increase 101 percent in 2012 to more than 6.2 million units. 3D TV revenues will reach \$7.5 billion, an increase of 68 percent. Internet-connected displays will also see steady growth in 2012, with unit sales of nine million, an increase of 52 percent. Revenues of Internet-connected displays will reach \$7.7 billion, an increase of 27 percent.
- As consumers look to integrate their existing electronics into their vehicle, revenues in the automotive electronics category have rebounded. Overall revenues for the in-vehicle category are projected to grow nearly nine percent in 2012.

We sent our team out to focus on entertainment technologies and services and report on the show through that lens. Relevant themes that emerged this year fall into the categories listed in the following sections of this report.

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Connected TVs & Display Technologies

Connected TVs

Most of the TVs showcased at CES this year were “connected.” The following are some of the more notable highlights:

LG Electronics

- The company touted two platforms: Google TV 2.0 and LG’s Smart TV.
- Google TV 2.0 is now integrated into LG’s sets so there is no need for an additional set-top box.
- LG has introduced a dual core processor for its new interface that the company claims has beefed up the search capabilities.
- “We’ve also kept our home screens between our Smart TV and our Google TV platform exactly the same so it’s a very ubiquitous feel.”



Google TV 2.0 will be available on LG, Sony and Samsung TVs.

Sharp

- Sharp announced that all new 60-inch class and larger AQUOS models will come equipped with Wi-Fi enabled Smart Central for full-screen Web browsing and access to popular apps.
- The flagship Aquos Quattron 3D LED TV is an 80-inch model with a new 240Hz LCD panel to virtually eliminate blur during fast-moving video. The unit boasts Wi-Fi, 4 HDMI inputs and the new Smart Central user interface.
- The company also introduced the free Beamz app, which will allow TVs to share content from iOS or Android devices.
- Two new Blu-ray players were launched: the BD-AMS10U and BD-AMS20U. Both models incorporate features from the new Smart Central interface.

Samsung

- Samsung announced its improved Smart Hub interface with new tabbed Web browser, which includes access to media services and apps including Hulu Plus, Netflix, Skype, Twitter and Facebook.
- Picture-in-picture functionality allows users to watch TV while browsing the Web.
- Samsung also has a new two-sided remote with full QWERTY keyboard for accessing Smart Hub features.



Sony

- Sony's new Network Media Player is powered by Google TV and includes the ability to directly download apps from the Android Market.
- There were two products demonstrated: a standalone Google TV box and a second unit that has a Blu-ray player built into it. The company also has a new scrolling remote.
- Sony rep: "We give you a lot of apps already installed on it, but we can take it a step further and go to the Android Market and find other apps that you might want to download that are optimized for your television. It really gives you a very customized approach to finding all that content and information that you're looking for."

Panasonic

- Panasonic announced it would bring the Flixster movie app to its Viera Connect platform on HDTVs and Blu-ray players, providing users with access to UltraViolet.
- The company says nearly 90 percent of the company's 2012 devices will be Web-connected.
- Panasonic's new Smart Viera branding should not be confused with the Viera Connect portal; it is a new umbrella term for Panasonic's collection of TV and Blu-ray products emphasizing connectivity.
- Also on display was the Social TV app that allows access to social media sites such as Facebook while simultaneously viewing TV programming.
- Panasonic's smart TVs will additionally feature an app called Myspace Companion, which allows for friends to have real-time discussions about television programs.
- Panasonic's Viera HDTVs will also include the new social Split Screen feature, which allows for the launch of Skype and live chatting while watching shows, along with the Flixster application for discovering movies online.

Display Technologies

OLED TVs

- Organic Light-Emitting Diode (OLED) TVs from Samsung and LG are super thin and lightweight.
- Measuring in at 4mm thick while offering deep blacks and bright colors.
- CNET Best of Show was awarded to LG's 55EM9600 OLED TV: "The first 55-inch OLED TV announced as shipping in 2012, and the only one to get an actual model number and public ship date (Q3), the 55EM9800 promises the superb all-around performance of OLED (absolute black levels, ultra-fast panel and excellent viewing angles) in an ultra-thin panel."
- Samsung is matching rival LG's OLED TV with a 55-inch OLED model of its own, a Best of Innovations Award Honoree at CES.
- The Samsung unit includes voice control, motion control and facial recognition features with two unidirectional microphones and integrated webcam for interaction with controls and activating apps.
- Samsung says its Super OLED tech offers incredible color reproduction and the virtual absence of motion blur with faster response times than LED.



LG's new 55-inch 3D OLED TV is the world's thinnest (4mm) and largest OLED TV.

Sony Crystal LED

- Sony Crystal LED employs a thin layer of 6 million LEDs (3 LEDs per pixel). Offers higher contrast of images in both light and dark viewing conditions.
- Sony sees Crystal LED as OLED's successor.
- C-LED will have a longer life span than phosphor-based OLED. Screens larger than 55-inches can be manufactured, which just now is the limit for OLED.
- It is also said to have faster response times and wider viewing angles compared to LCD and plasma displays.
- Sony showed two prototype 55-inch C-LEDs.



Sony sees large screen display future in Crystal, not LED.

4K Displays

- Most of the major CE companies demonstrated a 4K display or announced units in development. 4K generally refers to a resolution of about 4,000 pixels wide and 2,000 pixels high, making it the equivalent of four 1080p screens in height and length.
- Toshiba is expected to offer the first commercial model with its 55-inch LCD featuring autostereoscopic 3D. LG has an 84-inch LCD model scheduled for summer launch.
- Sir Howard Stringer noted in his keynote that Sony is developing a 4K display.
- Sharp jointly developed with I-cubed Research Center the ICC-4K LED TV, which "intelligently" up-scales from HD to 4K, providing four times 1080p resolution.
- Sharp also had an 8K prototype on display – an 85-inch unit (7680x4320 resolution, 33 million pixels).

Ultra Widescreen HDTV

- Vizio's XVT 3D CinemaWide LCD TV will start at \$3,499 for the 58-inch HDTV model (50-inch and 71-inch models are also scheduled).
- The new set will feature its trademark 21:9 aspect ratio (compared to a traditional HDTV's 16:9) and 2560x1080 resolution.
- The 120Hz Edge LED lit screen at 56.7-inches wide by 29-inches high and 1.8-inches deep.
- The CinemaWide TV features Vizio's Theater 3D (with battery-free glasses), built-in Wi-Fi, and Internet Apps interface with access to Facebook, Netflix, Hulu Plus, YouTube, Twitter and more.



Software and Related Products/Services

UltraViolet News

- Flixster, owned by Warner Bros, is growing after Panasonic and Samsung announced they would add it to their HDTVs and Blu-ray devices. Flixster is the leading online destination for movie enthusiasts with over 30 million unique visitors per month and 2 billion movie ratings.
- In addition to its destination sites Flixster.com and RottenTomatoes.com, it also operates the leading movie applications on iPhone, Google TV, Android, Windows Phone and BlackBerry.
- Neustar's UltraViolet Coordinator will enable users to purchase and access their film and TV content virtually anywhere and across a variety of devices.
- Rovi's Digital Copy Solution, which will be used by Samsung and available on PCs, will allow consumers to add their discs to their UltraViolet locker after paying a "nominal" fee.
- Another potentially significant announcement was made by Amazon, which "revealed that rights for electronic sell through have been secured from one of the big studios," reported *Engadget*. "Considering the true potential of UltraViolet can never be realized without near full support for all the online content retailers, and that Netflix has apparently withdrawn from DECE, this could be a major win for the over 80 companies that are a member of the consortium."



Flixster, the No. 1 movie discovery app, now lets you stream movies and TV shows from the cloud with UltraViolet.

DECE Updates

- Slightly more than 750,000 households now have UltraViolet accounts, Digital Entertainment Content Ecosystem (DECE) announced at its press conference.
- Nineteen UltraViolet titles are now available, and DECE expects that more than 100 will be released during 2012.
- Sony, Universal and Warner Bros. have already released UltraViolet content. Paramount Home Media Distribution will release UltraViolet-embedded "Paranormal Activity 3."
- In the first half of 2012, DECE will introduce its Common File Format for downloads.
- UltraViolet launched in the UK in late December; international expansion will continue in 2012 into countries including Canada.
- During the panel, it was revealed that Netflix is no longer a member of DECE. However, DECE has partnered with DEG to promote UltraViolet.

Intel WiDi

- Intel demonstrated its WiDi (wireless display) technology, showing how a user can wirelessly send video from a device to a TV without the need for extra STB devices. The first major CE partner will be LG.



WiDi will also connect computer-to-computer and computer-to-phone. Watch for the creation of an optimized Android SDK for the Intel chip architecture.

- Intel introduced the technology in 2010, but it's just now beginning to bear fruit, with a multitude of WiDi-ready devices coming to market, including all new ultrabooks and models from 100 different OEMs.
- It will also be enabling WiDi on Intel-chip tablets and phones. Intel is only now entering those markets, and was showing at its booth pre-release Lenovo tablets and phones.
- Samsung and Sharp are among the manufacturers shipping sets with built-in WiDi, as is AT&T on its U-verse boxes, and consumers can expect "Intel WiDi" badges to become as ubiquitous as "Intel Inside."

M-GO

- Technicolor unveiled M-GO, a free app that offers cloud-based streaming rental or download-to-own movies. The service is UltraViolet compliant.
- It launches in the U.S. this spring with a catalog of 10,000 Hollywood movies and an international launch inked for 2013.
- M-GO also provides cloud-based access to music, apps, live TV and other media across connected devices.
- The app will be available on Intel Ultrabook devices through Intel AppUp.
- It will come pre-loaded on Samsung's 2012 Smart TVs and Blu-ray Disc players and will be accessible on Galaxy tablets.
- M-GO will come pre-loaded on Vizio TVs, tablets, Blu-ray players and stream players that are part of Vizio Internet Apps Plus.

DISH Network

- DISH has joined with Blockbuster to offer the most extensive library of movies, TV shows and games available that you can stream to your computer or TV (over 100,000 titles). New releases will be available before Netflix and Redbox.
- DISH hopes to emulate the way phone companies have energized sales through uniquely tagged products like Droid, Razr, and Galaxy by upgrading their technology and giving the units shorter, more memorable names.
- Their new base platform, Hopper, is 40 percent smaller than its competitors, uses the fastest CPU available for satellite receivers, has three tuners capable of recording live HD TV on six channels at the same time, and comes equipped with a 2TB hard drive.
- Their secondary platform, Joey, is more compact and does not come with a hard drive, but has the same processor and up to three can be used to play, pause and record live TV.
- DISH touted Hopper's Wi-Fi capabilities and seamless Sling integration that will allow customers to view recordings remotely on mobile devices. The company is hoping to slice into Hulu's market and mentioned that its ad-free, same-day-viewing gives it superiority over the popular streaming site.

Samsung Disc-to-Digital

- Samsung Disc-to-Digital Conversion will allow users to convert DVD and Blu-ray Disc movies into digital copies via Samsung's new "Disc-to-Digital" feature in the Blu-ray player.
- Once users register ownership of their movies, they can then access this content on multiple devices or upgrade their collection by purchasing HD quality versions of these movies.

Roku Streaming Stick

- Roku unveiled plans for its new Roku Streaming Stick, a device the size of a mini thumb drive, which will fit into the HDMI jack on the back of TVs to stream online video.
- "A stick is a better deal for consumers than a box," says James McQuivey of Forrester Research. "It's less intimidating, and it's portable. You can take it with you on vacation, plug it into a hotel TV. People will like the portability."
- Expected to ship in the second half of 2012, the stick will cost between \$50 and \$100 — comparable to the price of the original Roku set-top box.



Roku intends to make deals with TV makers to bundle the Streaming Stick with their sets.

Boxee

- Boxee announced that in 2012 it would integrate with Facebook and provide live TV to its "smart" set-top box.
- With an HD antenna, Boxee Box can now access programs from local broadcast stations. As always, the box will also run local content and online content, which has set it apart from competitors.
- Its new TV app for Facebook allows users to share what they're watching on Timeline, enabling video discovery among friends. For those users concerned about privacy, they will be able to customize settings to selectively share.
- Boxee is praised for its intuitive, sleek remote but the article questions whether the device is actually "the one box your TV needs," as the company claims. One point of contention is the size of the box, which does take up space (compared to Roku's recently released stick).
- Also, the box does lack in content without Hulu or Amazon Instant. With other options such as Xbox, Roku, Apple TV and connected TVs, Boxee may or may not have enough to set it apart in an increasingly competitive market.

Philips uWand



- Philips demonstrated a new remote control technology called uWand, which uses an interface that the company calls "remote touch."
- Combining accelerometers and infrared cameras, the remote allows users to interact with the screen simply by pointing, in a similar approach to that of the gesture control tech used by the Nintendo Wii.
- It also incorporates an integrated QWERTY keyboard on the back of the remote, allowing for a straightforward and intuitive text interface.
- The pointing technology also allows users to interact with many popular mobile applications in a manner that is very similar to the touch interface for those apps on mobile devices.

LG Magic Remote

- LG's new Magic Remote, which will come packaged with the company's new line of Smart TVs, will include the Dragon TV platform from Nuance Communications for voice recognition.
- TV viewers can access a Web browser through the app bar, while watching a television program, and search for Pizza Hut via voice command.
- Additionally, viewers can use the voice recognition tech for Content Search to access videos from YouTube, Hulu and others.
- LG rep: "We also have our Social Center this year for voice recognition. While you're sitting on your couch, you can update your Facebook account and/or tweet your friends while you're watching your football game."

CRAM Worldwide

- Minnesota-based CRAM unveiled Venu, the first portable home entertainment system that uses high capacity secure hard drives to deliver entire libraries of content to your home.
- According to the site, Venue provides "subscribers access to hundreds of movies, thousands of songs, entire television series, all in the highest definition, instantly to your smart phone, tablet, TV, computer or other device."
- Venu is portable and provides an "untethered" content solution by streaming entertainment locally from the secure, removable cartridge.



OnLive Cloud Gaming

- Cloud gaming will appear on connected TVs via the OnLive app on GoogleTV and Gaikai on LG Smart TVs.
- These services will allow users to download an app to the TV and for a subscription fee play a large number of popular gaming titles.
- OnLive delivers games from the cloud to a user's Mac, PC, TV and mobile devices.

The Latest 3D News

Products and Services

Although it didn't garner the buzz associated with high-resolution connected TVs and a slew of new ultrabooks, 3D was still alive and kicking at CES. A few items worth noting:

LG Electronics

- This year 50 percent of LG's TV lineup will be 3D TVs and Smart TVs. The company will introduce 55-, 60-, 72-, and 84-inch 3D TVs with 1mm bezels and a thickness of 28mm.
- The Magic Remote, their motion sensor remote control device, will be enhanced with voice recognition capabilities.
- LG is also introducing a 3D gesture interface (like the Kinect) for both display/channel control and game play.
- Their immersive Cinema 3D experience technology includes in-set 3D depth control, 3D sound zoom, and improved 2D-3D conversion.
- 3D sound involves both physical speaker and sound field design. LG has developed products that produce an enhanced horizontal and vertical 3D sound field experience.

ESPN 3D

- ESPN aired live from CES: ESPN Radio, SportsNation and Top Rank Boxing from the show floor.
- For ESPN 3D boxing, the crew used a Sony HDC-P1 camera system with 3D rigs by the Pace Cameron Group sent through a Sony MVX-8000x production switcher.
- ESPN also demonstrated its authenticated "Watch ESPN" app on the iPad and other tablets.



The game and commercials looked great on the big screen (at least to Alabama fans).

- Additionally, ESPN beamed the 3D feed of the BCS National Championship match-up between LSU and Alabama into the Hilton Theater.
- It was projected onto the big screen using Christie 3D projection, RealD polarizer technology, and Marchon EX3D premium eyewear.
- This was ESPN's 39th football game over two seasons presented in 3D. The production featured 11 3D cameras including a SkyCam, an Ultra Slo Motion camera and 3D Sony cameras on each goalpost.

2D to 3D Real-Time Conversion

- Both Stream TV Networks and 3D-Bee showed improved real-time conversion, however they are far from perfect.
- Stream TV is planning to partner with CE manufacturers to integrate its proprietary hardware, firmware and software in set-top boxes, PCs, tablets, TVs and other displays.
- The company claims the technology includes 2D-to-3D autostereoscopic conversion, and 3D stereoscopic to 3D autostereoscopic conversion. Stream TV also aims to offer 2D-to-3D conversion services to content producers and owners, using its technology.

- 3D-Bee's 2D to 3D hardware converter can convert any 2D video up to 1080p from standard sources in real time.

Sisvel 3D Tile Format

- Italian firm Sisvel Technology showcased a 3D broadcast signal it says delivers better quality over less spectrum. Using a proprietary frame slicing technique it calls the "3D Tile Format," the system delivers a 3D and backward-compatible 2D HD signal without doubling the bandwidth.
- The signal maintains a true 16x9 aspect ratio and 3D that does not blur during data-intensive 3D action scenes, a company rep explained.
- Samsung and Panasonic televisions are shipping with Tile Format compatibility. Other sets can display the signal using set-top boxes.

Sony Personal 3D Viewer

- Sony demonstrated the market-ready version of its head-mounted 3D display.



The \$799 Sony HMZ-T1 is being positioned as a personal alternative to a traditional big screen HDTV.

- As detailed at its August launch, the device simulates a 150-inch screen 12 feet away and features dual OLED screens as well as virtual 5.1-channel surround sound.
- The headset, although a bit front-heavy, was comfortable to wear — but is a challenge to enjoy with prescription glasses.
- The head mount and processing unit combined weighs about two pounds.
- The device features HDMI pass-through, meaning that simply turning the viewer on or off will switch the image from the TV to the unit.

Leonar3Do 3D Drawing Tool

- The Leonar3Do system allows you to control objects in 3D space and look around them by moving your head.
- The system includes a drawing "bird" controller, three sensors that attach to the top of the screen, polarized glasses containing chips that the sensors track, and open API software for drawing and game design.
- The drawing tool is organic and easy-to-use, so training on Leonar3Do is more artistic than procedural.
- In other words, students learn by pushing the limits of their artistic expression rather than mastering geometries and commands.



Leonar3do offers a \$1000 educational version and a \$1350 professional version.

Glasses-Free 3D

Overview

- Autostereoscopic displays point the way forward for the 3D TV industry, but the technology is far from mature.
- Major CE companies (including Toshiba, Sony, LG, Samsung) demonstrated autostereoscopic technology; the 3D effect looks better but is still far from the quality of 3D with glasses.

- Among several glasses-free displays was Stream TV's Ultra-D technology, which will launch in Q2. The company, which makes autostereo software and firmware, says it has already signed a deal with a consumer electronics brand to embed the Ultra-D technology in its sets.
- Toshiba exhibited its glasses-free 3D TVs, which have launched in Japan and will soon launch in the U.S. – priced around \$11,500. On display were three 55-inch 4K panels of the REGZA 55X3. If they were to display 2D HD content, they would do so at a 3840x2160 pixel resolution using Quad Full High Definition (QFHD). With the 3D function switched on, that resolution is split into 9 frames – or 9 views – of 720p HD.
- Dimension Technologies uses a patented Time Multiplexed Backlight technology, which inserts a single active substrate between the LCD and its backlight. "When turned on it allows the display to show real 3D images by creating light lines. These light lines are placed behind a conventional LCD panel," said CEO Arnold Lagergen. "The ability to convert instantly from 3D to 2D display makes our displays unique. No other 3D display converts to full resolution 2D."

MasterImage Mobile 3D

- Hollywood-based MasterImage 3D unveiled a new technology that allows for glasses-free viewing of stereoscopic content on mobile devices.
- The company demonstrated a glasses-free HD 720 resolution 3D display for 4.3-inch smartphones and WUXGA 1920x1200 resolution 3D display for 10.1-inch tablets.
- The technology relies on a proprietary "cell-matrix" parallax barrier, which the company claims allows for a wider viewing angle than existing glasses-free 3D technologies.

3D Glasses

XPAND YOUiversal

- XPAND's new \$119 YOUiversal 3D glasses work with both RF and IR protocols.
- The active shutter glasses feature LCD lenses and a rechargeable lithium-ion battery.
- YOUiversal eyewear is programmable to personalize the 3D viewing experience. They come in three sizes and a variety of colors. Frame weight ranges from 1.62 to 1.66 ounces.
- The company is a founding member of the Full HD 3D Glasses Initiative, which is working to make active shutter glasses interoperable.
- It supports protocols by LG, Sony, Panasonic, HP, JVC, NVIDIA, Vizio, Bang & Olufsen, Sony, and others.

Sensics SmartGoggles



SmartGoggles run Android 4.0 without the need for connecting to a PC or gaming console.

- Sensics introduced immersive, interactive 3D goggles that combine impressive resolution and field of view with real-time, 360-degree tracking of the hands.
- From the Sensics site: "Delivered as a 'system on a module,' SmartGoggles technology provides consumer electronics companies with an engine for building goggles that customers will love to use."
- Features: 360-degree 3D, 1.2 GHz dual-core processor, dual SXGA (1280x1024) OLED displays, on-board Wi-Fi and Bluetooth.

3D Printing

Casio 2D to 3D Art

- Casio is able to take 2D snapshots, add depth, and then use a proprietary 3D printing process to make sculptures or 3D paintings out of them.
- The company wasn't promoting a product yet, but seemed to be paying close attention to feedback at the show.
- "Casio also introduced something called Relief Transformation, which adds a bit of depth, contrast, and texture to picture – it's a pretty big upgrade from its HDR effects, but only visible in printed work," according to *Digital Trends*.



Casio's conversion uses a proprietary rendering technique and specialized 3D printer.

Cubify Plug-n-Play 3D Printing

- The Cube, by South Carolina-based 3D Systems, is a \$1299 3D printer for the home that will be on the consumer market in 3-5 months.
- The USB and Wi-Fi enabled device is available for pre-order on the Cubify.com beta site.
- ABS plastic used in printing will be sold for \$50/bag. A 2-inch wide printed watchband, for example, uses about \$3 of plastic and prints in under three hours.
- Cubify.com will offer consumers downloadable templates that they can combine and modify, so they don't have to learn 3D modeling from scratch.
- The site also offers a 3D printing service for those who opt not to purchase the Cube.

MakerBot Thing-O-Matic & Replicator

- Brooklyn-based MakerBot Industries was demonstrating two models of its next generation 3D printer – a single head (single color) printer for \$1799 and a double head (two color) printer for \$1999.
- The Replicator is a step above MakerBot's Thing-O-Matic in that it comes pre-assembled and prints objects as large as 8.9x5.7x5.9 inches.
- The 3D printers use either ABS or PLA plastic filament threads sold at \$45/kilogram spools. For reference, a 5-inch tall red chess piece requires less than 30 grams of material valued at under \$1.
- According to *CNET*: "The MakerBot Replicator one-ups the Cube 3D with 'dualstrusion' technology, meaning it can print objects in multiple colors and materials."



The MakerBot Replicator earned a CNET Best of CES award in the Emerging Tech category.

Mobile Solutions

Smartphones

Not surprisingly, the CES show floor featured a wide array of phones and related products. The following are a few of the bigger ticket items:

Nokia

- AT&T announced at CES it would be the first to deliver 4G LTE Windows Phones, including the Nokia Lumia 900, expected in spring running Windows mobile 7.5 (Windows 8 is expected to be released later this year).
- Features: 4.3-inch AMOLED touchscreen, 1.4 GHz processor, 4G LTE, Bing, Internet Explorer 9, HTML5, Wi-Fi, 8-megapixel camera with Carl Zeiss optics.
- CNN, ESPN, Univision and “Sesame Street” are among the content providers that have partnered with Nokia as it strives to offer customers a rich user experience.
- The Lumia 900 touts 60 hours of music playback and 6.5 hours of video playback time.
- Nokia will also be making a 4G LTE Windows phone for T-Mobile.



The Nokia Lumia 900 won the CNET Best of CES Award in the Smartphones category.

Motorola

- Motorola’s new 4G Droid Razr Maxx is built for maximum power, with a 3300mAh battery that just about doubles the industry average.
- The company claims the device can run for 21 hours of talk time – or the streaming of eight movies – before needing to be recharged.
- It includes a 4.3-inch Super AMOLED display, dual-core 1.2GHz processor and Android Gingerbread 2.3.5 (upgradeable to Ice Cream Sandwich). It features HD video capture and playback via front and rear-facing cameras.
- Motorola also touted Motocast, an app the company describes as a “personal cloud,” allowing mobile devices to access content on a home or work PC. Both the Droid Maxx and the Droid XY Board tablet feature Motocast.



The 4G Droid Razr Maxx is made with DuPont Kevlar fiber and features Corning Gorilla Glass. The phone is a mere 8.99mm thin.

LG Electronics

- LG brings HD technology to new smartphones with a 4.5-inch display, boasting an astounding screen density of 329 pixels per inch.
- The first phones equipped with true HD IPS displays: the Optimus LTE and the Spectrum.
- The Spectrum sports a 1.5GHz dual core processor, 8MP camera/camcorder, 1.3MP front facing camera and Android Gingerbread 2.3, which can be upgraded to Android Ice Cream Sandwich upon its release.

- ESPN and LG are partnered, so the Spectrum will arrive pre-loaded with the ESPN ScoreCenter app and will stream 720p mobile video from ESPN.
- VMware virtualization software in the Spectrum and other new phones allows workers to have two distinct device profiles on their smartphones, one for work and one for personal use.
- The Spectrum is available through Verizon for \$199 with a two-year contract.

Software and Related Products/Services

Dyle Mobile TV

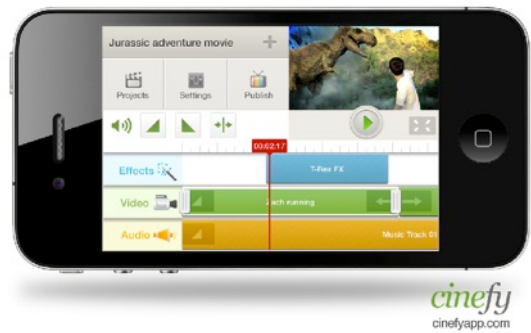
- Dyle Mobile TV is the consumer brand created by MCV to deliver live mobile TV content from 15 major broadcast groups such as Cox, Gannett, Fox, NBC and others.
- The service initially will be pre-loaded on a Samsung smartphone that will be available later in 2012, according to the company. It has also partnered with Belkin to bring the service to tablets.

George Mobile

- George VoIP app is the first gamified app to integrate voice, text and video-chat with social networks.
- For a low fee, users can upgrade to a real local number for talk and text to any phone in up to 44 countries.
- The more users share on George the more rewards they get, such as free talk time and text messages.

Cinefy

- Cinefy is a new video editing and effects system for the iPhone that enables users to direct and share their “own movie magic with effects and elements from popular TV shows and video games.”
- The app includes features for inserting footage, adding music from a built-in library and applying an array of special visual effects.
- Videos can be edited on the iPhone and then instantly shared via Facebook, YouTube and Vimeo.
- The product is currently in limited beta.



Cinefy's minimal user interface is easy to use. The app features a collection of more than 50 special effects.

Alcatel-Lucent

- In a new twist on marketing user-generated content, Alcatel-Lucent was pushing the Fan Cam App – developed through its ng Connect Program with member companies 4DK and AFP.
- The idea is for a wireless provider like Verizon or AT&T to partner with location-based entertainment (sports, music, and more) to further engage fans by allowing them to share user-created material.
- Fans use their phones to register as participants at live events, where they can then access content like instant replays, fan-uploaded photos and participate in real-time contests and receive special offers.
- Spectators can live-stream an event or game from their seat and the compiled content can be marketed afterwards or shared with friends. It can also be analyzed by an editor during the event and shown on the big screens.

Microsoft Windows 8

- If the size of the crowds packing the Microsoft booth demos were any indication, there is a lot of interest in Windows 8.
- Maximized for touchscreen interaction, the Windows 8 user interface makes ample use of slide commands (which can be achieved via mouse or keystrokes for those not using a tablet).
- The colorful tiled interface, dubbed “Metro Style,” is ubiquitous across all new Microsoft platforms including Windows Phone, and allows for a high degree of customization.
- Cool features include automatically hibernating any open apps that are not actively being used, for maximum processor efficiency.
- The ability to search and share content across multiple platforms is also handy, as is a snapping function that keeps multiple windows open and locked in position.
- The commercial release is expected by the end of the year.



Qualcomm



“Qualcomm believes in an Internet of everything; that all devices need to be connected. That if people create better mobile experiences it will sell more devices” – Brian Vogelsang

- In an effort to facilitate the creation of peer-to-peer apps across multiple mobile platforms, Qualcomm has created AllJoyn, a software developer kit that enables design and output to Android, iOS, Windows Phone and even Linux.
- The technology enables “proximity-based, device-to-device communication without the use of an intermediary server,” according to the company.
- The beauty of the approach is that none of the activity goes through the cloud – it’s all local, device-to-device – which makes it cheaper for developers (who don’t have to invest time and resources in cloud compatibility) and allows quicker response time for the end-user.

Wireless LAN SD

- The SD Association released the Wireless LAN SD standard at CES, which adds Wi-Fi accessibility to the standardized storage format.
- The new memory cards allow consumers to wirelessly download, upload and share photos or videos in addition to using the Wireless LAN SD memory cards as control points for other devices.
- Consumers will be able to transfer content from cameras to cloud services and between SD devices over home networks.

WOWee and MicroVision

- Portable-speaker company WOWee ONE has teamed with MicroVision, creator of ultra-miniature laser display technology, to develop a compact projector-and-speaker in one for mobile devices.

- “With the WOWee ONE speaker and MicroVision’s pico projector, smartphone and tablet users can have a large viewing display, up to 200 inches diagonal, with incredible, crisp images and booming sound, whether they are at home, hanging out with friends, presenting their latest business analytics or watching a movie in their hotel room,” promises the press release.
- The “immersive digital consumption experience” solution will be available Q1.

MicroVision Pico Projection

- The PicoP Gen 2 HD laser display engine boasts 720p high-definition images and immersive displays up to 200-inches diagonal. Its brightness ranges from 15 to 25 lumens.
- MicroVision will make the technology available to OEMs for testing in Q1 2012.
- The company is also demonstrating two new PicoMagic display applications: touch interactive and 3D displays.
- The PicoMagic touch interactive display will allow users to interact with a projected image on any surface, instantly creating multi-user applications such as virtual whiteboards.

Optoma Mobile Projectors

- Optoma is adding three new LED models to its mobile projector offerings, including the newest Pico model, the PK320.
- The 8-ounce PK320 features WVGA resolution and produces 100 lumens when plugged in, but it can be battery-operated for up to an hour while still providing 25 lumens.
- The other two projectors, the ML300 and the ML500, increase the intensity (the larger ML500 delivers images of up to 180-inches), while still maintaining a compact footprint.
- The PK320 is expected to hit stores by the end of this month with the other two entering the market later this year. Prices range from \$449 for the PK320 to \$699 for the ML500.



The LED sources in the Optoma mobile projectors offer longevity with a 20,000-hour lifespan.

PowerTrek Mobile Charger

- PowerTrek offers outdoor enthusiasts an alternative to batteries and solar chargers with its new fuel-cell charger for USB-compatible devices.
- The device uses a tablespoon of water (even saliva in extreme cases) and the PowerPukk fuel pack to convert hydrogen into electricity as it passes through the lid’s fuel cells, delivering 5W of charging power.
- During the process the chemicals in the Pukk are transformed into sodium silicate, better known as the scrubbing agent in toothpaste. Each Pukk costs \$3 to \$4.
- The device captures excess energy from the hydrogen-to-electricity conversion in a detachable battery in its lid that can be carried and used separately as a spare battery.



The PowerTrek lid can also be charged via USB without the fuel-cell system.

Ultrabooks & Tablet PCs

Ultrabooks

“Ultrabook” was a major buzzword at CES 2012 in Las Vegas, where a number of compelling new models debuted:

Intel’s Ultrabook Strategy

- Intel, a major proponent of the sleek lightweight laptops, expects more than 75 new ultrabooks to launch in 2012, including models with 14- and 15-inch screens.
- Juniper Research is forecasting that sales of ultrabooks will increase at three times the rate of tablets over the next five years.
- IHS iSuppli predicts that by 2015, about 40 percent of notebook PCs will be Intel-branded ultrabooks.
- According to Mooly Eden, vice president of Intel’s PC Client Group, future ultrabooks will feature touchscreens and voice recognition.
- Nuance’s chief marketing officer, Peter Mahoney, announced a partnership with Intel to put his company’s voice-recognition technology into ultrabooks.
- Additionally, Windows 8 is expected to play a key role in driving ultrabook adoption.
- The chip giant announced a \$300 million Ultrabook Fund to help kick start the category.
- Beginning in April, Intel will launch an ultrabook marketing campaign called “A New Era in Computing” that will include print, TV and outdoor advertising.



Intel, which has registered the ultrabook name as a trademark, hopes the high-end sub-notebooks will compete with Apple’s MacBook Air.

Samsung Series 5 & 9

- Samsung announced its Series 5 Ultrabooks in 13- and 14-inches, both powered by i5 1.6GHz processors with 16GB SSD and 8GB RAM.
- Fastest boot in 20 seconds, fastest start in 2 seconds, according to the company.
- The 14-inch model can be configured with up to 1TB of HDD storage. It features HDMI, VGA, USB 3.0, USB 2.0, SD card slot and built-in webcam. It’s 20.9mm thick and weighs 1.84kg. The 13-inch model is 0.69-inches thick and weighs 1.38kg.
- Samsung has also updated its high-end Series 9 Notebooks with an aerodynamic design, claiming the world’s thinnest and most compact at 0.6-inch thick for the 15-inch model.
- Fastest boot in 9.8 seconds and fastest start in 1.4 seconds.
- Base models for both will start with Intel Core i5 processors at \$1,399 for the 13-inch and \$1,499 for the 15-inch.



Samsung’s ultrabooks will debut later this year: \$899 for the 13-inch model and \$949 for the 14-inch version.

HP Envy 14

- The CNET Best of CES Award in the Personal Computers category went to HP's Envy 14 Spectre premium ultrabook – “the most glass-covered laptop we've ever seen,” according to *CNET*.
- Sheets of Corning Gorilla Glass cover both sides of the lid, in addition to glass over the wrist rest and touchpad.
- The unit touts up to 9.5 hours of battery life on a single charge.
- The base model starts at \$1,399 and features an Intel Core i5 2467M processor, 4GB of RAM and a 128GB solid-state drive. Core i7 and 256GB SSD upgrades are available.



Dell XPS 13

- Dell will begin releasing ultrabooks at the end of February. The XPS 13 will start at \$999 with an Intel i5 processor, 13.3-inch LED screen and 128GB solid-state drive.
- The XPS 13 weighs just under 3 pounds, has up to 8 hours of battery life and is being offered in an iBook-like aluminum case with an LED backlit keyboard and Gorilla Glass screen.
- It will also feature Intel's "Smart Connect" technology, prompting the unit to periodically "wake up" from sleep mode to update email and calendar items if a Wi-Fi network is available.
- Future design plans include touchscreen capability and the ability to convert the clamshell into a tablet.

Other Notable Ultrabooks

- Lenovo ThinkPad T430u – 14-inch display, 0.8-inch thick, less than 4 pounds, Intel's new Ivy Bridge processor, up to 1TB hard drive. Available: Q3 2012 starting at \$849.
- Lenovo IdeaPad Yoga – 13.1-inch display, 8GB RAM, 256MB SSD, 8 hour battery life. 360-degree, double-hinge design includes touch screen. Available: June 2012.
- Acer Aspire S5 – 13.3-inch display, 15mm-thick chassis, 3 pounds, magnesium-alloy cover, Thunderbolt port, USB 3.0 and HDMI ports.
- LG Super Ultrabooks – The 13.3-inch Z330 and 14-inch Z430 are both equipped with LG's proprietary Super Speed Boot tech. The Z430 has a combined HDD/SSD drive and storage capacity up to 500GB.
- Asus Zenbook UX31 – 13-inch display, 4GB RAM, 0.3 megapixel webcam, wedge-shaped design measures 17mm at its thickest point and 3mm at its thinnest.
- HP Folio 13 – 18mm around the middle, 13.3-inch display, up to 9 hours of battery life, 128GB SSD, USB 2.0 dock, USB 3.0 and Ethernet.
- Toshiba Satellite Z830-10U – 13.3-inch display, 128GB SSD, 16mm at thickest point, powered by Sandy Bridge, three USB ports (one is USB 3.0) and an Ethernet connection.

Tablet PCs

Tablet computers, which started to gain momentum in 2010-2011, are having a power surge in 2012. There was real diversity in the tablet offerings at CES, with standouts including the Asus Memo 370T and the Toshiba Excite X10:

NVIDIA, Asus and Acer

- Driven largely by gaming, Asus and Acer both unveiled quad core tablets with 1280x800 HD displays, running Android 4.0.
- NVIDIA showed the Asus Memo 370T quad core tablet. The 7-inch tablet is powered by NVIDIA's Tegra 3 processor with Android 4.0 (Ice Cream Sandwich).
- The Asus model features an 8-megapixel camera and up to 64GB of internal storage. It starts at \$249 and will be released in the first quarter.
- Acer's 10-inch Iconica A510 was also on display at the NVIDIA booth, touting a 5-megapixel camera, up to 32GB of internal storage, Bluetooth, Wi-Fi and HDMI out.
- NVIDIA also showed a prototype quad tablet running Windows 8.



The \$249 Asus Memo 370T quad-core, Android 4.0 tablet took home the CNET Best of CES Award in the Tablets category.

Razer Project Fiona

- This year's CNET People's Voice Award went to the Razer Project Fiona concept gaming tablet, which according to *CNET*: "suggests that Windows 8 is a serious player in portable gaming, and that Razer is serious about moving into manufacturing computers."
- Project Fiona is a PC-based portable game console/tablet that features real controllers instead of the virtual emulation more common with tablets. It is the first tablet designed specifically for PC gaming.
- Project Fiona currently uses an Intel quad-core Core i7 microprocessor, with plans to eventually run Windows 8.
- Min-Liang Tan, founder of gaming firm Razer, provided demos at CES. "Try to do that on an iPad," he said. "Tablets today are good enough for casual gaming. This isn't Angry Birds."
- "This is going to run a full library of PC games right out of the box," Tan said. "This is a concept device, and the design will change, but you can see that it has great graphics."



Samsung Galaxy Note

- The unique size of Samsung's Galaxy Note places it in a category all its own, somewhere between a smartphone and a tablet. Some media outlets have taken to calling it a "phablet."
- The Android Gingerbread-based gadget features a 5.3-inch HD AMOLED screen, 800x1280 resolution, 1.5GHz processor, 8MP rear camera, 2MP front camera and 1080p video recording.
- The "S Pen" is a stylus integrated into the rear that can be used to register pressure-sensitive drawings on the screen.
- Samsung has confirmed it will upgrade the Galaxy Note to Ice Cream Sandwich in Q1 2012.
- AT&T announced at CES they will carry the Galaxy Note, adding LTE support to the device.



The Samsung booth featured on-site artists drawing attendee caricatures with the integrated S Pen to illustrate the Galaxy Note's artistic capabilities.

MasterImage Glasses-Free Mobile 3D

- MasterImage 3D unveiled a new technology that allows for glasses-free viewing of stereoscopic content on mobile devices.
- The company demonstrated a glasses-free HD 720 resolution 3D display for 4.3-inch smartphones and WUXGA 1920x1200 resolution 3D display for 10.1-inch tablets.
- The technology relies on a proprietary "cell-matrix" parallax barrier, which allows for a wider viewing angle than existing glasses-free 3D tech.
- MasterImage is currently licensing the technology to several manufacturers, with the first devices using the technology expected to hit the market in the third quarter of 2012.



MasterImage's parallax barrier is also switchable, allowing the device to be rotated between landscape and portrait modes.

Cameras & Camcorders

Cameras

CES 2012 saw some compelling camera and camcorder products, including three exceptional point-and-shoot cameras – the Fujifilm X-Pro1, the Nikon D4, and the Canon PowerShot G1 X:

Fujifilm X-Pro1

- Fujifilm’s new mirrorless X-Pro1 features a new sensor, new lens system and a hybrid viewfinder.
- “Targeted at professionals, the camera incorporates several innovations, including a promising new sensor and lovely hybrid viewfinder, all in a sleek retro design,” reports *CNET*.
- Features include: interchangeable XF lens system, proprietary thin X-Mount that minimizes back focus, 16-megapixel X-Trans CMOS sensor, hybrid viewfinder that swaps between optical and electronic, HD video at 1080p (with video output using mini-HDMI).
- Also announced: three new lenses – 18mm f2, 35mm f1.4, and 60mm f2.4 macro (with nine more lenses coming soon).
- The X-Pro1 will ship in late February. The body is expected to run around \$1,700 and lenses about \$650 each.



Fujifilm took this year’s CNET Best of CES Award in the Camera category with the new X-Pro1, the company’s first mirrorless model.

Nikon D4

- Nikon demonstrated its soon-to-be-released professional DSLR, the D4.
- Features include a 16.2-megapixel FX-format CMOS sensor, 10fps continuous shooting, a 91,000-pixel RGB sensor, an improved 51-point AF system, and ISO expanded to 204,800.
- Nikon has really focused on video to better compete with Canon. The D4 can record 1080p at 30, 25 and 24fps. It can also shoot at 60fps (but drops to 720).
- Two interesting features include HDMI output of raw uncompressed video at 125mbps and the ability to monitor stereo audio.
- Shipping in late February, the D4 will cost \$5,999.95 (body only).



Canon PowerShot G1 X

- Canon introduced its \$799 PowerShot G1 X compact camera with large CMOS sensor capable of producing DSLR image quality.
- Canon's 14.3-megapixel CMOS sensor measuring 18.7mm x 14mm is larger than a Four Thirds sensor.
- The sensor offers 14-bit RAW capture like Canon's DSLRs, gives dramatically increased control over depth of field and has a large ISO range of 100 to 12800. (Small sensors have been a shortcoming for Canon's G-series compacts in the past.)
- Other features include a 4x optical zoom range of 28-112mm, a 4-stop optical image stabilizer, and support for Full HD (1080p) movie capture (but only at 24fps).

Canon EOS C300

- CES marked the first public showing of Canon's new digital cinematography camera – the EOS C300 – since November's launch.
- The camera is priced around \$20,000 (body only), currently available in two versions: with an industry standard PL-lens mount or an EF mount for Canon lenses.
- It records 50Mbps, 4:2:2 MPEG-2 MXF format to dual Compact Flash card slots.
- The EOS C300 contains a Super 35mm-sized CMOS sensor, and can shoot up to 60 frames per second at 720p resolution and 30fps at 1080p.
- A new set of Canon lenses is also available: 14.5-60mm and 30-300mm cine zooms in EF and PL-mount versions and 24mm, 50mm and 85mm primes for EF-mount only.



Richard Crudo, ASC, used the EOS C300 to shoot the indie feature, "Max is Back."

Polaroid Android Smart Camera

- Polaroid's SC1630 Android HD Smart Camera is a 16-megapixel camera/phone with Wi-Fi and Bluetooth capability.
- It features a 3.2-inch touchscreen, 3x optical zoom and can shoot 720p video.
- The SC1630, expected to ship by April, is being developed with an eye toward also serving as a smartphone, so the \$300 price could drop if a U.S. carrier picks it up.
- Polaroid also showed what is effectively a digital version of its classic Polaroid camera. The 14-megapixel Z340 instant digital camera has a 2.7-inch color LCD, zoom and light options, and accommodates still and video images.
- The \$299 Z340 produces 3x4 prints on Polaroid ZINK paper.

Pentax Q

- The Pentax Q is the world's smallest and lightest interchangeable lens camera, according to the company.
- It joined the growing lineup of point-and-shoot cameras at CES that are taking on SLR features, further blurring the line between professional and personal photography.
- The 12.4MP Q is 3.9-inches long, 2.3-inches wide and 1.2-inches deep, shoots full 1080p video and has five types of attachable lenses including a fisheye lens for increased field of view.

- The camera features a micro HDMI port to facilitate instantaneous playback directly on most HDTVs.
- The Q is available now for \$749.95 and comes with one standard 47mm equivalent prime lens.

Camcorders

JVC 4K Camcorder

- JVC was showcasing its GY-HMQ10 – priced under \$5000 – “the world’s first handheld 4K camcorder,” according to the company.
- The 4K camcorder incorporates the company’s Falconbrid large-scale integration chip for high-speed signal processing and a 1/2-inch CMOS imager with 8.3 million active pixels to provide 3840x2160 footage at 24p, 50p, or 60p.
- According to JVC, the LSI processing can dematrix the raw image data in real-time, and “is able to output 4K images to a monitor or projection system in real-time with virtually no latency.”
- Suggested applications include cinematography and live event coverage.
- Using MPEG-4 technology and an H.264 codec operating at up to 144Mbps, the GY-HMQ10 records up to two hours of 4K video to SDHC or SDXC memory cards.



The JVC 4K camcorder is slated for availability in March for a MSRP of \$4,995.

GoPro BacPac Wi-Fi

- GoPro previewed its new BacPac Wi-Fi attachment for its HD HERO and HERO2 cameras.
- Weighing less than one pound, it fits into the camera’s waterproof housing.
- GoPro’s HERO is a wearable and gear mountable HD camera popular with outdoor enthusiasts.
- The camera can be operated via remote control or via an app (iOS or Android) that also allows the user to see the video and stream it via a mobile device.
- The company says the Wi-Fi Remote can be used to control up to 50 HERO cameras at a time.
- Available in February, the GoPro BacPac will list for \$99.

Oregon Scientific ATCMini-S



The ATCMini-S can tolerate temperatures of 32-104 degrees.

- Oregon Scientific demonstrated its new ATCMini-S Action Video Camera, created to compete in the extreme sports space with wearable cameras such as the GoPro Hero.
- The \$150 camera is a mere 2.3 ounces and records 720p HD video at 30 fps.
- The ATCMini-S is ruggedized with a silicone protective sleeve and waterproof to 65 feet.
- The company offers a hard shell helmet mount, handlebar mount and surf mount designed for recording action of extreme sports.

Smart Car Technologies

Products and Services

Mobile technology in the automotive sphere took on a new presence at CES 2012 with a push from manufacturers to include enhanced “infotainment” systems in their new cars featuring apps, touchscreen displays, gesture controls, streamlined services and more:

Mercedes-Benz

- Mercedes-Benz introduced the new SL, the first vehicle equipped with the second generation of the company’s mbrace technology that provides full Internet access and a host of apps designed for in-vehicle use.
- Mercedes also brought along its F-125 concept to demonstrate how it envisions technology shaping the future of the automobile.
- The F-125’s infotainment system can predict and adapt to the user’s needs by performing tasks like suggesting an umbrella if the forecast predicts rain at a given destination or by automatically downloading podcasts and news based on previous interests.



- Mercedes will kick off the world’s largest car-to-x communication test in Germany to prove that “a connected car is a proactive car.”
- The car-to-x communication system uses driver’s smartphones, in particular their GPS data, to connect every vehicle on the road, providing not only real-time traffic information on an unprecedented level but a road condition warning system that the company hopes is the first step towards accident-free driving.
- Daimler AG will continue rolling out its Car2Go car-sharing service and has introduced its Car2gether app that combines ridesharing with social media for safe carpooling alternatives.
- The company is also working with Apple to develop apps in support of its connection-based initiative.

Intel Atom Processor

- Intel showcased how its Atom processors can power in-vehicle infotainment systems.
- On a wall-sized monitor, a host and faux-driver demoed the latest: a system that wirelessly syncs for internal connectivity to mobile devices, providing hands-free ease of use and giving driver and riders rear-seat entertainment, navigation, radio/CD, location-based services and external communications.

- A survey of 200 automotive execs determined more than one-third “expect that consumers’ purchasing decisions over the next five years will be driven by whether the car they purchase has Internet connectivity and built-in technologies such as navigation with live traffic update, voice recognition, and access to smartphones through steering wheel controls and the dashboard.”

Ford AppLink

- Ford’s SYNC Services launched in 2009, providing voice-activated access to a cloud-based network of information.
- In 2010 Ford added SYNC AppLink – allowing smartphone-equipped customers access to a growing number of popular apps.
- Ford AppLink allows developers to create in-vehicle mobile applications that assume unique functionality when Android, iPhone and Blackberry devices are docked to the dashboard via USB.
- Android devices also work via Bluetooth.
- Ford’s apps feature a variety of sports, information and financial programming.
- A new NPR deal, for example, is interesting on two fronts: as a case study in how traditional content “networks” might make their products available a la carte – and for Ford’s hands-off positioning as third-party technology enabler that is facilitating uses for smartphones while leaving it largely to the handset manufacturers to upgrade and maintain the platform environment.
- Additionally, Ford showcased onboard health monitoring devices that will help drivers with medical issues, and features such as back-up cameras that can make it easy for one person to do things like attach a trailer hitch.



NPR has debuted an app designed for Ford SYNC AppLink, the voice-activated platform that works by connecting smartphones to vehicles.

Parrot ASTEROID Devices

- Utilizing ASTEROID, an Android-based platform introduced last year at CES, Parrot is expanding its range of after-market connectivity solutions designed to integrate Internet functionality to the driving experience.
- Devices range from a 3.2-inch dashboard mount model to a 6.2-inch central console replacement. All have wireless remote controls to mount to the steering wheel and are designed to access the Internet through a tethering cell phone or 3G key.
- Parrot is currently developing applications to display the versatility of its devices, some of which include speed trap notifications and geolocation.
- The company also stresses the open-source nature of ASTEROID and hopes it can be used to expand its app library as time passes. Along with Internet radio applications like Pandora, some of the devices are also capable of providing entertainment by capturing live TV broadcasts.
- Parrot hopes to use the central console device as a base to expand to a multiple monitor entertainment system in the future.

New and Emerging Technologies

Each year we see a number of compelling technologies, products and services that do not fit easily into our areas of coverage. The following are a few worth noting from CES 2012:

Augmented Reality

Lego Digital Box

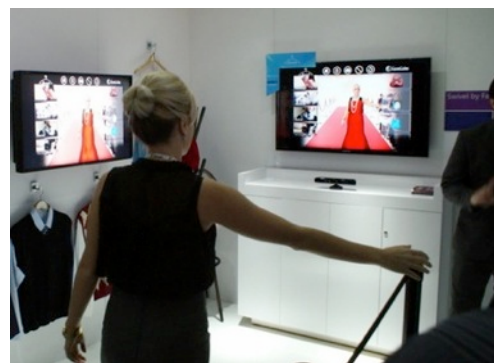
- Real-world objects are mingling with digital environments in a way that had been possible only on bluescreen movie sets. Known as “augmented reality,” the technology is starting to pop up in retail environments.
- Intel showcased its Lego Digital Box technology.
- When a customer presents a toy at a Digital Box kiosk, a discreetly-placed camera “recognizes” the packaging, activating a screen that mirrors the scene, with one important difference: the package contents spring to life in 3D atop the box.
- The animation will change based on the positioning of the product.
- Lego first introduced the technology a few years ago, and is in the process of replacing the older kiosks with second-generation models.
- The built-in graphics capabilities with Intel’s Sandy Bridge platform allows for much greater product detail in a less bulky kiosk, according to Lego.
- “Consumers spend up to seven times longer engaged with AR than a poster or print ad,” explains Thomas Alt, CEO of Munich-based Metaio, the software developer for the kiosk. “Also, initial studies show that people are 64 percent more likely to purchase a product after engaging in an AR retail experience.”



The new Lego Digital Box kiosk is currently installed in the Chicago store. The company plans to roll them out nationally this year.

Microsoft Gesture Recognition

- In the Microsoft booth they were taking augmented reality interactive with gesture recognition, using technology developed for Kinect.
- Microsoft released a Kinect for Windows SDK in February. The move was inspired by the fact that developers were already hacking the Kinect software and using it for their own experimental projects.
- Fashion marketing firm FaceCake was among those demonstrating their wares at the Microsoft booth.
- The Calabasas-based firm leveraged Kinect to create an application called Swivel that lets customers “try on” clothing and accessories.
- “We see it going to a place where just about everybody has a 3D depth camera in their home, and there will be displays in stores and the two will interact in what we call a Swivlet – a virtual closet,” FaceCake founder Leigh Utterback said.



An attendee tries on a virtual outfit with the aid of gesture recognition.

Nokia City Lens

- Nokia previewed Nokia City Lens, an augmented reality app that allows users to locate points of interest nearby using maps and the camera's viewfinder.
- Consumers can then share locations or favorite spots with friends through email, texts, or posts on their social networks.
- City Lens was demonstrated on the 4.3-inch screen of the new Lumia 900 phone.
- The app features multiple views based on the phone's orientation. For example, positioning the phone horizontally will display the augmented reality camera mode with locations as an overlay, in portrait mode a list of locations is made available, and holding the camera towards the ground provides an overhead map.

Additional Gesture and Content Recognition

Tobii Eye Tracking

- Tobii, a Swedish company previously focused on helping people with physical limitations, was making waves at CES by demonstrating the world's first eye-controlled arcade game – an adapted version of the classic Atari game "Asteroids."
- The company also had laptops outfitted with their eye-tracking technology. Attendees were flipping through photo albums, navigating Microsoft Windows and playing games. The systems were incredibly intuitive to navigate and very responsive, if not a little bulky.
- Tobii plans to fix that, however, with plans to shrink the sensor so that it doesn't alter the form factors of the devices it's used in.



Tobii plans to make its system available to the professional market – CAD, artists, etc. – in a year, and to the consumer market in two years.

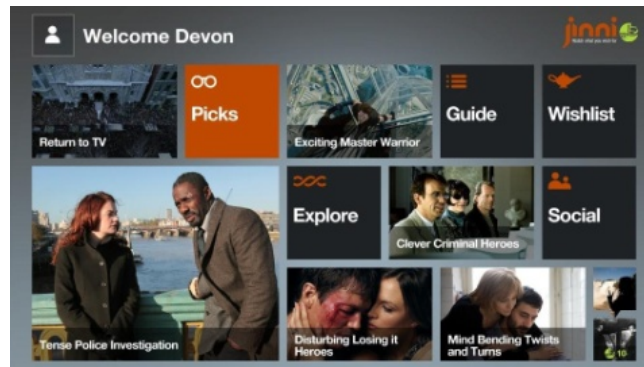
- The technology works by shining a near infrared light onto the eye and detecting the reflections off the pupil.
- Near infrared light was chosen as the operating wavelength because it offers a robust response that works reliably in any light, giving the user the freedom to use the controls no matter where they are located.
- The company is targeting a very broad market with plans to develop it as a touch-less assist for surgeons and license its OEM technology to various companies, including a car manufacturer interested in detecting driver drowsiness.

Gracenote ACR TV Platform

- Gracenote introduced Entourage, its soon-to-be-released automatic content recognition platform. The company expects to release this new interactive TV platform by Q2.
- Entourage uses "audio fingerprinting" technology that allows smartphones and tablets to automatically identify movies, TV shows and music in real-time.
- As Entourage "listens" to what the consumer is doing/watching/listening to on his or her TV set, it unlocks data from its database for deeper exploration into related content on mobile devices, along with advertisements and paths to products.
- According to Gracenote's press release: "Entourage will enable electronics manufacturers, content distributors and developers to turn the TV watching experience into a vehicle to generate revenue and build direct and engaging relationships with viewing audiences."

Mood-Based Video Discovery

- Omek Interactive provides technology that enables manufacturers and software developers to add gesture-based interfaces to devices and applications.
- The company's gesture recognition and body tracking software works with all major 3D cameras, and supports a broad range of processors and operating systems.
- During CES, Omek announced its new partnership with Jinni Media.
- The Jinni app/site powers the next generation of video guides with proprietary taste-based discovery service for movies and TV shows – so consumers can intuitively find content that matches their moods and entertainment personality – across all available catalogs.



- The prototype solution demoed at CES combines Omek's Beckon technology with Jinni's discovery engine for movies and TV shows, creating a gesture-enabled video discovery interface.
- According to the press release: "The result allows viewers a natural and intuitive way to discover the film and television content that is best attuned to their tastes and moods, by using gestures to find and refine selections based on rich combinations of attributes (such as 'thought provoking love story' or 'clever cons and scams') that go far beyond standard genres or popular categories typically used in content selection guides."

Touch Surfaces

EXOPC EXOdesk

- Canadian company EXOPC demoed its EXOdesk interactive, touchscreen workspace.
- The multi-touch high-definition surface measures 40-inches and supports a wide array of multi-fingered gestures.
- Users can swipe the corner with four fingers to reveal what appears to be an RSS feed, and then swipe individual items to make them disappear.
- Apps specifically designed for the EXOdesk, coded in HTML5, will be available from the EXOstore.
- The company has already announced a number of planned programs, including a news reader, virtual keyboards, board games and musical instruments.
- According to the company's [video demo](#), the EXOdesk will be available later this year for \$1299.



The EXOdesk has been compared to the Microsoft Surface touchscreen tabletop. However, the \$8900 Surface is intended for the enterprise while the \$1299 EXOdesk is more of a consumer product.

MultiTouch Oblique Wall

- Helsinki-based MultiTouch Ltd. demonstrated its MultiTaction platform for large-scale interactive screens.
- The company says its integrated sensor technology allows slim designs for more than 100-inch displays, a concept illustrated by its demo of the MT550W7 MultiTaction Oblique Wall.
- Comprised of MultiTaction Cell 55-inch HD LCD displays with embedded Windows 7, MultiTouch is billing it as “the world’s largest asymmetric multi-user touch wall.”
- The interactive display runs on Intel Core i7 processors and is designed for single-display installations for museums, retail spaces, universities, medical, corporate communications and exhibitions.
- MultiTouch also demonstrated its 2X Stacked MultiTaction Augmented Reality Table.

Additional Products and Services

Liquipel Waterproofing

- Liquipel is a Santa Ana-based company that has conducted R&D on innovative coatings for the past five years.
- The company provides a waterproofing service: send them the device and they will protect it.
- Liquipel’s patent-pending coating permanently bonds on a molecular level to electronic devices, inside and out.
- According to the company’s site: “It is not visible to the human eye, virtually undetectable and Liquipel will not compromise the look, feel, and performance of your electronics.”



Liquipel claims the coating protects ports and sockets without impacting their connectivity.

J5create Wormhole Switch

- Wormhole Switch from J5create is a single USB cord that enables Windows and Apple computers to exchange files. There is also a version that connects Windows machines with Android platforms.
- No software is required; the cord – priced at \$24 to \$39 – does it all.
- Data transfer rates are USB 2’s standard 4.8 gigabytes per second, “so file size is limited only by the size of the hard drive. You can drag and drop a 1 terabyte file,” a company rep explained.
- The Wormhole Station accomplishes the same thing via a docking device that also enables multiple units (like tablets and iPads) to share a keyboard.



Sonomax eers

- The next generation of custom earphones from Sonomax Technologies – eers PCS-150 and PCS-250 models – were named CES Design and Engineering Awards Best of Innovations winner in the Headphones category.
- The product came to market last year under the brand “Sculpted Eers.” Sonomax is rebranding and repackaging the system as simply “eers.”
- It is a high quality dual earphone system similar to Etymotics custom-molded earbuds, but unlike other custom systems that require waiting six weeks for a final product to come back, the eers system is created entirely by the user in about ten minutes.
- The user puts on a headband that contains a two-part liquid silicone cartridge for each ear. On snapping two tabs, the cartridges squeeze silicone into each ear, which hardens to the ear canal shape in about five minutes. Throw away the headband and you now have a custom set of high quality “ear monitors,” since the ear speakers were already a part of the injection process.
- The earbud cord has a built-in noise-canceling microphone, making it ideal for iPhone use. There is no noise canceling technology needed for the speakers (hence no batteries), because the molded silicone plugs form a perfect mechanical seal in the ear, blocking out 95 percent of ambient noise.



Sonomax offers two models: one at an MSRP of \$199 – and a \$299 version with a higher quality woofer/tweeter pair for each ear.

Presentations & Keynote Events

Panels, Keynotes and Press Conferences

Channelization of the Web: YouTube Sees Itself as the Future of Television

- Speaking at a keynote event, Robert Kyncl, vice president of global content partnerships for YouTube explained that the video site would continue to expand at a rapid pace, as it moves more toward a channel model.
- Kyncl pointed out that the five most popular YouTube channels now have as many viewers as the top 20 cable channels, and further explained that content on the video site is instantly global, avoiding many of the complex licensing and distribution hurdles that exist in traditional television.
- He highlighted a number of well-known personalities who would launch YouTube channels in 2012, including “The Office” co-star Rainn Wilson, and Marvel comic book legend Stan Lee.
- A panel of speakers at the event, including “CSI” creator Anthony Zuiker, and a number of advertising executives, highlighted YouTube’s unique ability to target specific audiences, in contrast to the wide net cast by traditional television advertising.
- “The problem with TV is that you can’t sell the same can of beer to a six year-old and a sixty year-old,” said Zuiker. “We are seeing the beginning of the extinction of traditional television.”



Sony Highlights Connectivity, 3D and 4K at CES Press Conference

- Sir Howard Stringer opened the Sony press event, then introduced Sony Deputy President Kazuo Hirai who discussed the company’s connected strategy – both to the Internet and across Sony devices.
- Sony is showing a 4K home theater projector and Blu-ray player with 4K upscale capabilities. It is also developing 4K TVs.
- Sony Ericsson will become known as Sony Mobile Communications.
- Sony is expanding its Internet TV line with the Google TV platform.
- Netflix will be available on PlayStation Vita, which launches February 22.
- The company introduced a new balance technology for the Handycam that it suggested could cancel handshake blur up to 13 times more than is currently possible.
- The new Bloggie Live is a Full HD camera with built in Wi-Fi for live video streaming.
- The Sony Open will be shot in 3D, and highlights will be featured at CES.
- Sony will host a technology demo of a Crystal LED display at its CES booth.



CES Panel Tackles the Future of 3D Production and Distribution

- Vince Pace, co-chairman of Cameron Pace Group, addressed the current 3D business model, noting that the aim is to “maintain quality and get the cost of 3D production down to the cost of 2D production.”
- CPG is addressing that issue with technologies including its Shadow, which allows a production to generate 2D and 3D from a single camera rig.
- ESPN, working with CPG, has started to work with what it calls 5D – or extracting the 2D from a 3D shoot. “That is a way to get two shows out of one,” said Bryan Burns, VP strategic business planning & development, ESPN.
- Robert Zitter, executive VP and CTO of HBO, pointed out that with the HD transition, one could go back and use films as they were already HD. “We can’t do that affordably in 3D.”
- Tom Cosgrove, president and CEO, 3net, is seeing a growing 3D appetite in international markets, notably in the UK, Italy and parts of Asia. “Particularly in the UK we are seeing a fast adoption.”
- Said Zitter: “We don’t believe in charging extra for 3D. We are in the business of enhancing product to drive our subscription business.” He added that HBO is eyeing the opportunities of offering 3D on demand.
- Burns suggested that next year, higher resolutions will be a topic, but “the mobile units that can produce that kind of quality really don’t exist today... Where does the money come from to build that kind of infrastructure?”
- Several panelists expect to soon see proliferation of 3D on mobile devices.

Networked Society: Ericsson Says Connected World is Just the Beginning

- Ericsson addressed how the Networked Society will change the way we communicate.
- A technology demonstration showed how music could be transferred from a Blu-ray player to a set-top box simply by human touch.
- Each of the devices is network enabled and includes electronic capacitors.
- When a person – who also carries with them a digital identifier such as a smartphone – touches one of the devices the human body itself completes the circuit. Personal content stored in the cloud is downloaded to the hardware.
- “Ultimately, we are the network,” said Ericsson CEO Hans Vestberg in his first ever CES keynote. He estimates there will be 50 billion connected devices on networks by 2020.
- “We see a change in how we communicate – from always having our communicator in our hand and having to find ways to link it to things – to becoming more human using proximity, touch, eyes and voice,” explained Keith Shank, Ericsson director of advanced technologies. “We need to be able to link not just a few devices, but all connected devices regardless of the vendor’s ecosystem.”



Panasonic Outlines 2012 Partnership Plans at CES Press Conference

- Panasonic held its press conference at the Venetian, announcing several interesting partnerships.
- The company will bring the Flixster movie app to its Viera Connect platform on HDTVs and Blu-ray players, providing users with access to UltraViolet.

- Panasonic announced a partnership with Disney Publishing Worldwide’s Kids Entertainment unit to develop interactive books.
- They are also partnered with Miramax to develop apps based on the Miramax library.
- Panasonic announced a partnership with Myspace TV, with presentations by CEO Tim Vanderhock and Justin Timberlake.
- Myspace TV (“The Evolution Will Be Televised”) will take existing TV content and add a rich social layer feature set to it.
- You’ll be able to virtually chat with your friends while you watch a game, for example. Additionally, your tablet and TV will synch so you can take the connections anywhere.

Panasonic Announces its Combined Hardware and Content Vision

- At its press conference, Panasonic announced the new ruggedized Toughpad will complement last year’s Toughbook, and will be useful for people using tablets in harsh environments.
- MyLink, developed in partnership with GM, is a hands-free voice activated automotive environment and media control system that will be in the 2013 Malibu and later in the Chevy Equinox and Volt.
- The company says 2012 will be the year 3D breaks through; 93 plasma TV models and 40 LCD TV models will be 3D.
- Panasonic will continue to sponsor DirecTV’s n3D programming.
- Panasonic has partnered with NBC/Universal to produce 200 hours of 3D programming for the 2012 Olympics, including both the opening and closing ceremonies.
- The new Panasonic Z10000 dual lens 3D video camera can shoot close-ups as near as 18-inches.
- Panasonic introduced a dedicated portable Skype communications device.
- Connectivity: 90 percent of Panasonic’s 2012 products will be Web enabled in some way, so content and online resources are key to their success.

Ninja Core: NVIDIA Touts Advantages of Tegra 3 Mobile Superprocessor

- NVIDIA CEO Jen-Hsun Huang focused Monday’s CES press conference on the new line of devices utilizing the Tegra 3 processor, stressing the variety of mobile solutions companies have to offer individual users with different needs and expectations.
- Billed as a quad-core device, the Tegra 3 actually has five CPUs. The fifth processor, or “ninja” core as it’s affectionately called, provides the key to the new variable symmetric processing.
- Huang said the processing makes it possible to maintain or increase computational power while maintaining low power consumption.
- The company also demonstrated its prism display technology that enables devices to maintain image fidelity as backlights are dimmed to save power through a reprocessing of each individual pixel’s brightness and color.
- NVIDIA unveiled another new feature of the Tegra 3, Direct Touch, where the ninja core is used to sample data at roughly triple the rate of a traditional capacitive touchscreen.
- Huang highlighted Tegra 3’s support of Android Ice Cream Sandwich as well as the new OS’ ability to unite the development process and user experience across platforms, from mobile phones to tablets and ultrabooks.



Press Conference: LG Emphasizes Immersive Entertainment Experience

- LG reiterated its focus on creating a truly immersive entertainment experience at its opening press conference at CES.
- The crown jewel of the program was LG's new 55-inch 3D OLED TV, which at only 4mm thin and 7.5 kg in weight is the world's thinnest and largest OLED TV.
- The contrast ratio on the new display is fifty times greater than that of traditional LED/LCD and LG has coupled it with their Triple XD Engine in hopes of creating truly life-like images.
- LG also detailed improvements to their 3D Smart TV line including upgrades in both resolution and size, with the largest model now coming in at 84-inches.
- In concert with the ultra-thin and ultra-large displays, the company introduced its new 3D surround sound, which uses advanced signal processing to control not only the lateral sounds but the vertical audio information as well, thereby encasing the user in the cinematic environment.
- LG also debuted two new ways to interface with its TVs, the new Magic Remote with voice recognition and a 3D gesture interface that uses a 3D camera device similar to Microsoft's Kinect.



Variety's Entertainment Summit

Masters of Film and Technology Breakthroughs

- Panel members: Lori MacPherson, EVP Global Product Management, Walt Disney Studios; John Calkins, EVP Global Digital & Commercial Innovation, Sony Pictures Home Entertainment; Ira Rubenstein, EVP Digital Marketing, Twentieth Century Fox; Matt Jacobson, Head of Market Development, Facebook; John August, screenwriter ("Corpse Bride," "Big Fish"); Thomas Gewecke, president, Warner Bros. Digital Distribution.
- Impact of the cloud: Consumers want to be able to see their content anywhere. They also want to have their purchased DVDs put into the cloud. Excited by the cloud. The cloud should be easy to use like an ATM. For example, Disney Studio All Access helps consumers build their own Disney library. With UltraViolet, the cloud is an opportunity for ownership and choice of playback device.
- On managing content: Windowing works. You offer the product at different price points, in many regions, at different times. It ultimately gives consumers more power. We need to create the right value equation with consumers. Enhanced content is value. Quality is value.

- Impact of social media: “As long as they’re frictionless and you’re able to deduce what your friends want, new tools make it really powerful for people to find things,” said Matt Jacobson. Facebook is already driving traffic to YouTube. Facebook worked with Sony to see if great awareness would increase the intent to see a movie. When people said they were going to see a movie, they actually did so. A 1% increase in intent led to \$1 million increased box office.
- Effect on content creation: Some well-known artists (e.g. Ed Burns, Louis C.K.) have been able to go directly to their fans via online channels and social media with initial success.

What’s Cooking? Technologists Eye the Future of Entertainment

- Included on the panel: Darcy Antonellis, president, Warner Bros. Technical Operations; Chris Cookson, president, Sony Pictures Technologies; Ed Leonard, CTO, DreamWorks Animation; Arnaud Robert, SVP Technology, The Walt Disney Company.
- On content over technology: Consumers should not have to think about technology. The focus should not be on the device but on creating and providing access to great content. UltraViolet, as one example, was created to enable a connected experience – seeking to make technology transparent, cross platform and optimized for the device.
- On mobile platforms: Mobility is a way to engage consumers and build a deeper relationship. Adapting to mobile platforms is an extension of cross platform support. Studios are evolving to support multiple screens. The challenge is how to provide the best experience.
- On user interfaces: Unlike before when studios created the UI for videocassettes and DVDs, today content aggregators are creating them. We’re moving towards collaborative interfaces developed with partners.
- On social media: It’s an opportunity to create a dialog with the consumer. We can create a community around movies. It’s becoming woven into everything we do.
- On innovation: Innovation is accelerating and studios are tapping the skills of all their employees. You don’t have to be an engineer to have a great idea that becomes a new service or product.

Conversation with News Corp’s Jonathan Miller

- Variety’s Andrew Wallenstein moderated a conversation with Jonathan Miller, CEO of News Digital Media and chief digital officer of News Corp.
- Video consumption is growing. Portable devices and multitasking are good news for consumption. It’s a fascinating media era since everyone wants content, including the CE manufacturers.
- Must serve the existing model of MSOs and MVPDs but also need to serve the consumer with new distribution channels.
- Future content strategies will be different than existing ones. However, what will become of the new services? And who will build the alternatives?
- As producers, we need to give consumers more content or risk declining over time. We should expect to see the channelization of the Web. But we will still have on-demand. News Corp. will provide a range of content to Xbox Live.
- Fox also remains committed to Hulu in an authenticated world. Authentication determines who gets content sooner, and consumers understand the tradeoffs.



- Hulu co-owners opted not to sell, despite bids. They recognized we are in the very early days of digital, a market that has not fully developed. Hulu+ is doing very well as a paid service. Subscriber growth will be a multiple of last year. Hulu also has an ad-supported service, suggesting that dual revenue streams work in this space.
- New distributors such as Apple and Amazon are servicing hundreds of millions of homes or more. While traditional distributors like Comcast only provide service to tens of millions as video becomes a secondary business to them compared to their broadband business.
- “Content companies want to have a view of what the market becomes.”