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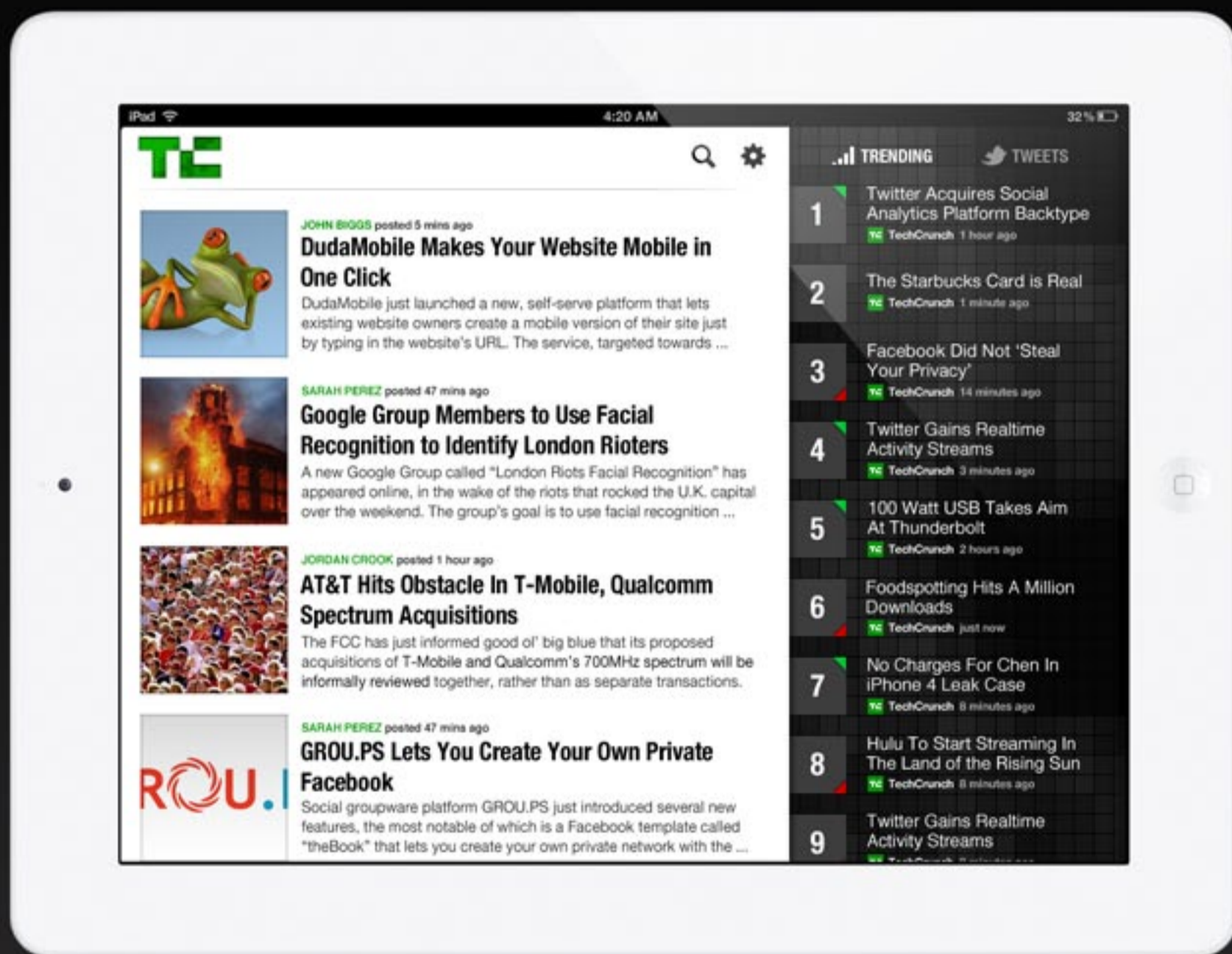
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**PREVIEW**



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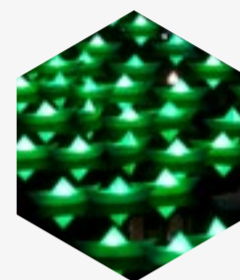
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Illustration by Troy Dunham



# CES AHOY

DISTRO  
01.04.13

EDITOR'S  
LETTER

**I**t's very nearly time, dear readers. CES is just a few days away. By the time you read this I'll be boots on the ground in Las Vegas, with nearly the entire Engadget team filtering in to Sin City through the weekend. The days ahead of the show will see us setting up our base of operations, the usual vinyl-wrapped double-wide trailer parked just outside of the Las Vegas Convention Center, from which we can dash to anywhere on the show floor and return quickly, getting the news up and into your browser within minutes.

In addition, like last year, we'll have a stage right on the show floor from which we'll be doing live interviews and demonstrations of the just-announced products, and if last year is any indication, we'll have some announcements being made right on the stage, too. And don't miss our video podcast from the show floor every night at 8PM PT. It should be an incredible week and, if that weren't enough, I'm headed straight to Detroit afterward for the North American International Auto Show to dig for some news on techy autos. Nothing like back-to-back show floor insanity.

So that's the week to come. What about the week we've just completed? Well it was, somewhat predictably, another quiet one, the biggest news being not one but *two* new mobile operating systems getting demonstrated. The first was Sailfish from Jolla, effectively an evolution of MeeGo running (at least currently) on Nokia developer hardware. It extends on the simplistic beauty of its core OS with a suite of intuitive gestures and haptics, creating what is ultimately a lovely package.

The other option is Ubuntu for smartphones from Canonical, which brings the mega-popular open source OS to mobile devices, specifically those designed for Android. Again, it's an intuitive and nice-looking package, but both of these have one major problem: no support from manufacturers. Neither had any partners to announce, but you will at least be able to download a Galaxy Nexus-friendly version of Ubuntu within the coming weeks.

Apple's New Year's woes continued into 2013. In years past we've seen iOS alarms mysteriously stop working on January 1st. This year, it's the iOS 6 Do Not Disturb Mode bugging out, not dis-



abling itself as usual. Apple is aware of the issue and quickly issued a response — but not a particularly satisfactory one. The solution is to wait until January 7th, and in the interim just manually disable Do Not Disturb. Yeah.

Netflix had its own embarrassing holiday outage, going offline for many players on December 24th. However, it wasn't exactly its own fault. The company posted an explanation this week, predictably pointing the finger at Amazon Web Services and explaining that not *every* streaming device was knocked offline. The company is working to add new redundant features, ones that are said to be very expensive — but probably not nearly as costly as that Disney partnership the company just locked down.

If you're still having a hard time finding a Nexus 4 things should be getting easier soon. *TmoNews* received a document stating that the handset is coming to all T-Mobile retail locations this month, which should handily ease any lasting supply issues — for those who didn't want Google's unmolested version, anyhow.

LG's 55-inch OLED TV, which wowed us at the 2012 CES, is now up for pre-order. For the low, low price of just 11 million won you can get yours — a sum equating to about \$10,000 US. The set will start shipping to lucky (and well-heeled) Korean consumers sometime next month, but there's still no word on an official release in the

US. Given that it's only 4mm thick and weighs 22 pounds, the import shipping fees should at least be relatively small.

Finally, OUYA got a little more competition this week in the form of the GameStick. It's another Android-based minimalist console, this one so svelte it slots right into its wireless controller. Pop it out and the device, which is shaped like a thumb drive, plugs into an HDMI port and requires no external power. At \$79, it's slightly cheaper than OUYA but Kickstarter supporters will have to be a bit more patient, with the system not shipping until April.

In this week's Distro we're bringing you everything you need to know as we lead up to CES with our in-depth previews of every major device category. This, of course, is just a taste of what's to come next week, where we'll be giving you daily issues of Distro right from the show floor, detailing all the excitement — and all the Crapgadgets, too. And, with our new Windows 8 version of the Distro app, I'm happy to say you can join in the fun on more platforms than ever. So, with that I invite you to kick back and celebrate the conclusion of the first few days of work in the new year, and get excited for a crazy week to come. **D**



TIM STEVENS  
EDITOR-IN-CHIEF,  
ENGADGET



# ENTER

EYES-ON

DISTRO  
01.04.13

## LOMOGRAPHY BELAIR X 6-12 JETSETTER



Tap for  
detail

CLASSIC  
DESIGN

MULTI-  
FORMAT

VINTAGE  
EXTERIOR

### A VERSATILE RETRO SHOOTER

The outfit behind several dapper medium-format cameras is up to its old tricks. Lomography's Belair X 6-12 comes in three vintage-styled options — one of which is the Jetsetter — with interchangeable lenses and variable formats in tow. Sporting a design that's rich in history, these units are sure to turn heads while you're out snapping a few frames.

**THE DAMAGE: \$299**


PHOTOGRAPHS BY WILL LIPMAN



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01.04.13

S-ON

# NUBIA Z5

  
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stories

**ZTE sub-brand Nubia** had prematurely given away the main selling points of its Z5 ahead of its Beijing launch, but there were still some surprises. Here's yet another 5-inch, 1080p Android phone featuring Qualcomm's 1.5GHz quad-core APQ8064, 2GB RAM and 32GB of internal storage, along with a 13-megapixel f/2.2 main camera and a 2-megapixel front-facing camera. For multimedia consumption, the Z5 supports WiFi Display and MHL output and either Yamaha or Dolby Digital Plus for audio.

Created in collaboration with famed Italian designer Stefano Giovannoni, the Z5 has achieved a 7.6mm thickness that currently tops the 5-inch-phone chart; yet at the same time it manages to cram in a 2,300mAh battery and maintain a 126g weight. With the help of the round-

**PRICE:** ¥3,456- ¥7,890 (\$550-\$1,260)

**AVAILABILITY:** JANUARY 2013 (CHINA)

**THE BREAKDOWN:** THE 7.6MM-THICK Z5 CONTINUES THE 5-INCH TREND WHILE PACKING A 13-MEGAPIXEL SHOOTER FOR MOBILE SNAPS.

ed sides on the aluminum frame and the non-removable plastic back cover, the Z5 felt firm and comfortable in our hands. Between the matte black and glossy white options we prefer the texture on the former, but regardless, we're not fans of the overly simplistic soft keys — just a red dot each for the menu key and the back key, and then a circle for the home button à la the Meizu MX2. As Nubia's first phone, there's no info regarding international availability yet, but the Chinese edition will arrive in January with a pricey titanium option as well.



# JOLLA'S SAILFISH OS

**As you might recall,** Jolla's open source Sailfish OS builds upon Mer (a fork of MeeGo that includes Qt) and uses the Nemo framework with a custom UI. Like any decent Linux-based OS, it supports both ARM and x86 devices. Many apps are still being worked on and some are still off-limits (we got in trouble for launching the camera), but what we saw was pretty solid. The lock screen shows the carrier on top, the time at the bottom and a column of notification icons along the right side. Pulling the screen down reveals a menu — the further you pull, the more menu items you see. This is accompanied by audible and tactile (haptic) feedback, which lets you “feel” which item you're selecting. Once you've highlighted the right menu item, just release your finger to select it.

On the home screen, you'll find a customizable row of four icons at the bottom — these are your commonly used apps. Inside an app, “pushing” left from the right edge of the screen lets you peek

**PRICE: TBD**

**AVAILABILITY: Q1 2013**

**THE BREAKDOWN: DESPITE A LIMITED PREVIEW, THE JOLLA OS PACKS FEATURES THAT LEFT US REASONABLY IMPRESSED.**



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at your notifications, while sliding all the way to the left brings you back to the home screen. Minimized apps appear as cards on the home screen but are still running in the background (Sailfish OS supports true multitasking). Another unique aspect of Sailfish OS is the ambience concept where you can personalize the lock and home screens by selecting an image from the gallery. Jolla takes things a step further by customizing the color of UI elements to match the content of the picture you selected.







# STICKNFINDBLUE TOOTHSTICKERS

**We've all misplaced keys, gadgets and occasionally even children.** Well, no more. StickNFind is a nifty, inexpensive solution for tagging and locating electronics, keys and pets. For roughly \$25 a pop (estimated retail), you get a small adhesive disk that can be affixed to any flat surface or attached to a keychain. Inside, there's a replaceable CR2016 watch battery that's said to last for more than a year, a Bluetooth module and antenna, an LED-lit ring

**PRICE: \$25**

**AVAILABILITY: MARCH 2013**

**THE BREAKDOWN: BLUETOOTH DISCS AND A MOBILE APP LET YOU HOME IN ON ANY TAGGED ITEMS WITHIN ROUGHLY 100-FEET.**

and a piezoelectric speaker. The current version can only display distance, but an update will add direction, leading you directly to your target. The app will offer several other features, including a "Virtual Leash" that alerts you when the sticker goes out of range — a "Reverse Virtual Leash" will make the device (perhaps attached to your keys) beep, letting you know you've left your smartphone behind.

The product designers will also be offering an SDK, so developers can even create their own apps for StickNFind. For example, you could write an app that uses the stickers as triggers — apparently one museum plans to affix the device to art, so as visitors approach, a text notification will pop up describing the piece. During our hands-on, StickNFind worked quite well, though as we mentioned, the current alpha version of the app only displays distance, not



direction. The device is currently available for "pre-order" on Indiegogo, with an estimated March ship date. **D**



# The Hardest Thing to Do in Space

By Mike Sager  
*Esquire*

**2012 was quite a year** for science stories, with NASA's Curiosity rover hitting one milestone after another a world away and the Large Hadron Collider making a discovery for the record books. In this profile for *Esquire*, Mike Sager talks to one of the men responsible for the former, Tom Rivellini of NASA's Jet Propulsion Laboratory. That naturally includes a look back at how he got to where he is, along with an account of Curiosity's development and landing, but it also looks at the big challenges ahead for Rivellini and his team. The biggest of those? Landing a spacecraft filled with humans on Mars

## Better Than Human

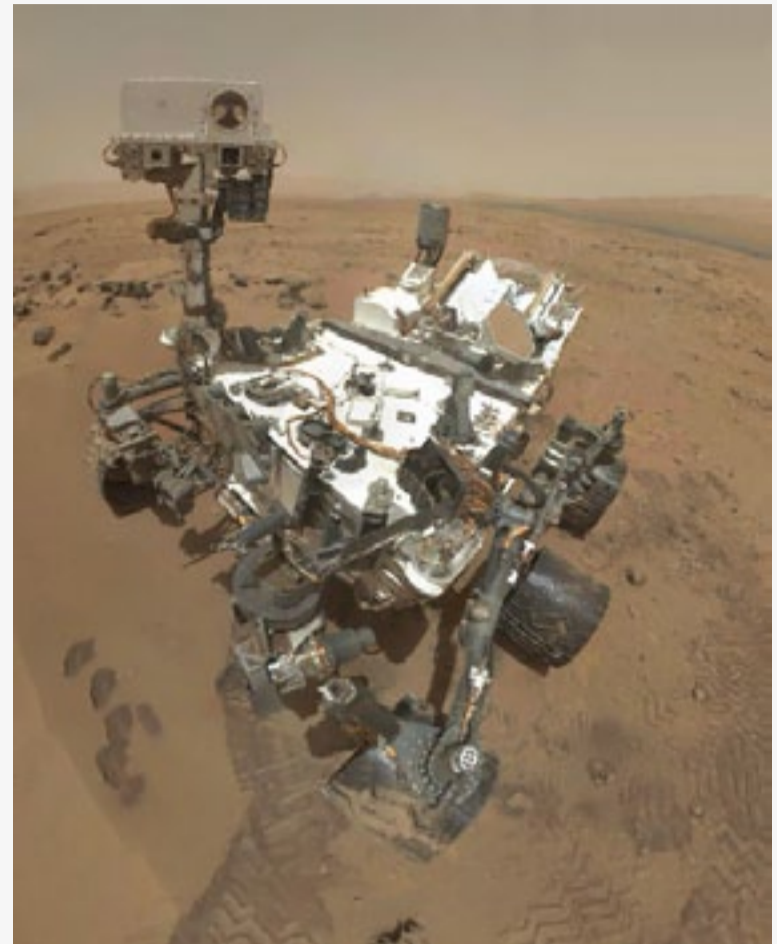
By Kevin Kelly  
*Wired*

As has become a particularly strong theme with *Wired* as of late, the recent issue takes an in-depth look at our robot-filled future, including this feature article from magazine co-founder Kevin Kelly. In it, Kelly suggests that robots may well eventually take many of our jobs, but also that it may not be such a bad thing — given that it will open up new possibilities and new jobs for humans.

## Will a Robot Take Your Job?

By Gary Marcus  
*The New Yorker*

Offering a counterpoint to the *Wired* article, *The New Yorker's* Gary Marcus takes some of Kelly's ideas to task in this piece of his own, arguing that many of those newly created jobs could likely be performed by robots as well, and that there are some other important factors which Kelly has ignored. Namely, there's a strong possibility we'll see a period of robot haves and have-nots.



Click on headlines to read full stories

and bringing it back. Before that happens, though, Rivellini says NASA will have to figure out a way to send another rover to Mars and bring *it* back, complete with some Martian samples.

## Down By Law: The Year Downloading Took a Dive

By David Peisner  
*Spin*

Music downloading has been a contentious issue for well over a decade now, but as David Peisner explains in this piece for *Spin*, 2012 may well have marked something of a turning point. It not only saw a drop in overall downloading and the shutdown of major file-sharing site Megaupload, but also a rise in streaming music services, which people seem eager to pay for.

## 'Smart Parking' and the Robert Moses Mistake

By Nathan Jurgenson  
*Cyborgology*

Smart parking apps promise to make it easier to find a parking space, but Nathan Jurgenson suggests they could also have some unintended consequences. Reacting to a recent *New York Times* article on the subject, he suggests they could take us into new territory that actually increases congestion in the same way that more traffic lanes put more people on the road.

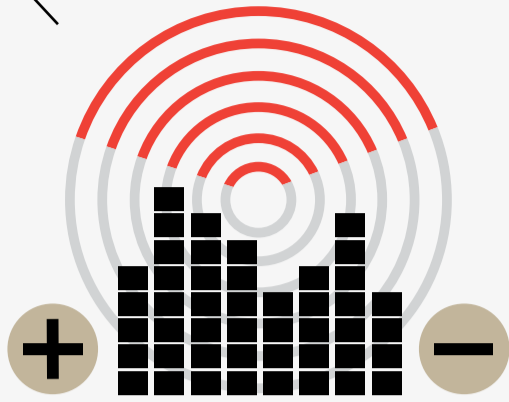




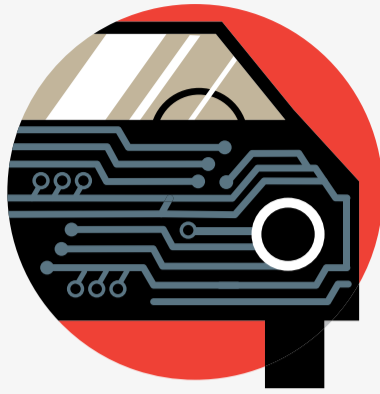
# UPGRADE YOUR HUMAN SPECIFICATIONS

4G<sup>+</sup> DROID DNA  
by HTC

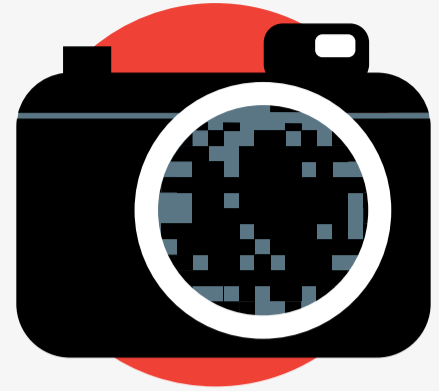
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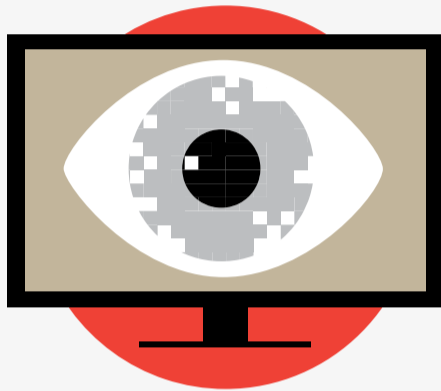
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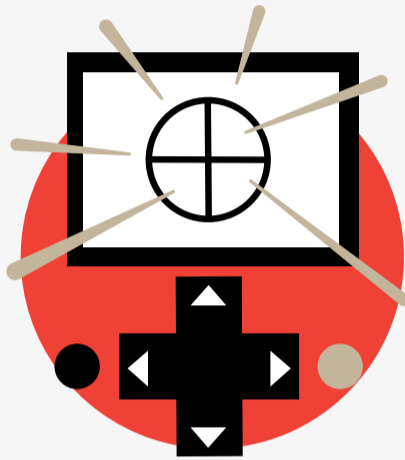
AUTO



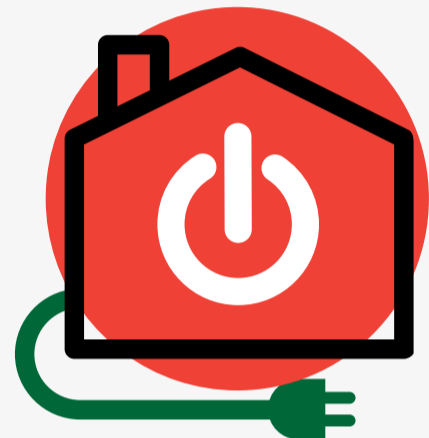
DIGITAL CAMERAS



HDTV/DISPLAYS



GAMING



HOUSEHOLD



LAPTOPS



SMARTPHONES



TABLETS

ICONS BY CARLOS APONTE

# CES 2013 PREVIEW

The sudden rush of device announcements and hands-on posts that come with the advent of each CES can feel a bit overwhelming if you don't know what to expect. And while we can't predict what's to come with unfailing precision, we're more than happy to give you an idea of what's on our radar this time around. The road to CES 2013 starts here, so get ready for the news deluge.[tt](http://tt)





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# AUDIO

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**AUDIO COMPANIES TEND TO MARCH TO** their own drumbeats when it comes to new goods, but CES usually brings us a few crowd-pleasers. We saw a bigger push for wireless at CES 2011 with the onset of AirPlay adoption and further dives into Bluetooth-equipped wares. Since then, nothing

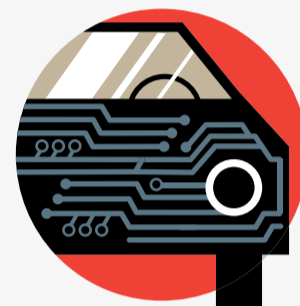
too exciting has shown up at the event, with companies focusing on expanding and evolving their existing product lines.

While it's hard to know for sure, we don't expect to see anything that'll be exceptionally innovative on a widespread scale. Naturally, you can count on a bigger assortment of wireless solutions, and likely the first big showing of the end of days for the speaker dock — excluding anything that Apple's Lightning connector might make its way onto. Still, the idea of the dock can live on with additions like Qi inductive charging, as we've seen from the likes of JBL and TDK already. The appearance of still more celebrity-endorsed headphones is certainly something to expect as well, even if the trend has already jumped the shark — don't tell Fiddy. That said, major companies like Sennheiser have joined the headphone bandwagon in their own ways, and we are likely to see more cans in the \$100 to \$400 range with street-focused looks and audiophile DNA. Of course, CES also sets aside a chunk of space in the LVCC for those into HiFi audio, with many boutique brands showing off their latest and best — usually with price tags to make your wallet cringe.



One thing is for sure, much of what we'll see will be in the early stages of development — even products that seem ready to roll have taken more than six months to hit retail in the past. Aside from all that, stay patient, because sometimes surprises come when we least expect them.

BY TIM STEVENS



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# AUTO

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**WE LOVE CES FOR MANY THINGS, BUT** primarily we're there for the gadgets — the phones, the tablets, the laptops and even the HDTVs, plus all the random stuff we find on the show floor that defies polite categorization. Lately, though, we've come more and more to love CES for something else: cars.

It's become a bit of a must-attend event for auto lovers too, with more major manufacturers showing up each year, rolling out their high-tech wares to show the industry just how well they're keeping in touch with the broader world of tech.

That auto-related tech can usually be broadly split into two general categories: technology that helps the car go somewhere and technology that makes its interior a better place to be while getting there. In the first category we're largely dealing with cars that are, in some way or another, powered by electricity, with the biggest example in the past being the Ford Focus Electric, which debuted at the show two years ago.



These days, EVs are far more common and so the story has turned to the details of living with the things. In 2013, we'll surely see a few new chargers, including, I hope, some production-ready induction units that would let you juice up your ride without having to drag a thick, heavy, filthy cable out of the trunk every time.

But it's in the other category, the one containing the creature comforts of a modern car, where we're likely to see the most innovation at the show. Today's auto interiors are riddled with technology, festooned with LCDs and feature high-resolution cameras, gesture detection and capacitive touch with haptic feedback. Yet despite this, manufacturers are struggling to keep up with the broader mobile device industry.

To get some help on this front, automakers are beginning to open things up a bit. This January, we'll see a focus on in-car apps. Multiple manufacturers have told us that they'll be launching initiatives in 2013 to enlist the help of outside developers and, while we're still a long way from a truly open source car, we can expect some auto-related APIs to launch at CES. This should, finally, help to push the selection of apps available to run in cars. Pandora has long been the poster child of in-car compatibility, able to run on nearly every smart car platform known to man — even quite a few that could only be called moderately intelligent.

As the selection of apps expands, smartphone integration will likewise spread, bigger than ever. Apple announced its in-car, Eyes Free version of Siri last June and nearly every major manufacturer has shown a willingness to support it. We'll see many deliver on that in 2013.

Finally, expect to see some production-ready 4G cars. Today, even the fastest of fast four-wheeled machines only connect to the world at large over 3G, another sign of the auto industry struggling to keep up with the world of consumer electronics. In years past, manufacturers like Audi

**AS THE  
SELECTION OF  
APPS EXPANDS,  
SMARTPHONE  
INTEGRATION  
WILL LIKEWISE  
SPREAD ...**



and Nissan have shown concept LTE-enabled cars. This time we'll see some ready to hit the road.

While it's no SEMA (the Specialty Equipment Market Association that throws a show for auto tuners at the Las Vegas Convention Center each fall), CES continues to make a mark on the greater world of transportation, and 2013 will further that trend. It isn't just a show for gadgets anymore — unless, of course, you consider cars to be gadgets, which honestly isn't that much of a stretch these days.

BY ZACH HONIG



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## DIGITAL CAMERAS

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**L**AS VEGAS HAS SEEN ITS FAIR SHARE OF digital camera launches, but with the PMA show all but defunct, manufacturers are shifting their focus to overseas events, like Photokina in Cologne, IFA in Berlin and even newcomer CP+ in Yokohama, Japan. That trade show trio helps to keep the international airlines in business, but it doesn't do us much good at CES, when nearly every other consumer electronics category gets a major products boost. That's not to say there won't be any new cameras at all — PMA does have a small presence at the show, and major players like Canon, Nikon, Samsung and Sony all invest in significant floor space (they'll need some new products to fill their shelves, after all). But announcements are largely spread throughout the year.





Last year's show brought consumer and advanced amateur models, alike. Fujifilm introduced the X-Pro1 mirrorless interchangeable lens camera, Canon showed off the PowerShot G1 X with a 1.5-inch sensor, Samsung boosted its SMART line of point-and-shoots, while Polaroid delivered the SC1630 Android hybrid. By the end of 2012, all of these additions faded from memory, overshadowed by more powerful ILCs, advanced compacts from Sony and the Samsung Galaxy Camera, respectively. That's not to say that any of these products were insignificant, but they surely weren't blockbusters, despite CES-fueled excitement at the time.

Looking forward to 2013, we can expect another batch of updates. Wireless connectivity and downloadable apps will likely lead the pack when it comes to brand-new features, and while Android may make an appearance in another compact or two, it won't be the star of the show. We may see larger sensors in smaller bodies with cheaper price tags. As much as ever, in-camera filters will represent a large portion of each model's feature description, and touchscreens will continue to proliferate, especially among higher-end models.

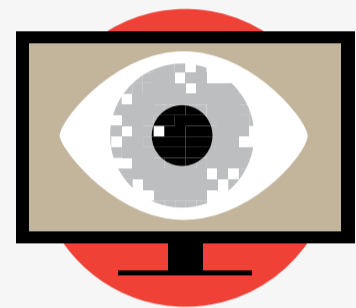
We'll also see cameras making their way into a larger variety of other devices. For better or worse, manufacturers will embed cameras in pricier TVs, adding value for customers who frequently use Skype or other video chatting tools. Tablets, laptops and smartphones will also get updated sensors and optics, though we don't anticipate capabilities that'll force your point-and-shoot into early retirement — not yet, at least. Eye-tracking may also have a more substantial presence within select laptop and desktop computers, bringing additional cameras into the picture. We could also see camera-equipped robotic vacuums (for remote monitoring and navigation), and maybe even some home appliance surprises (the answer to “who stole my yogurt?” could be provided

**WE MAY  
SEE LARGER  
SENSORS IN  
SMALLER  
BODIES WITH  
CHEAPER  
PRICE TAGS.**



by a video log). Sure, that last one may sound a bit far-fetched, but with thousands of companies competing for your attention, there's no telling what crazy implementations we'll see this January.

BY RICHARD LAWLER



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## HDTV/DISPLAYS

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### LOOKING FOR WHAT'S GOING TO BE NEW IN

home theaters for CES 2013 is largely a good news / bad news situation. The bad news? The list of tech we're expecting to see (Ultra HD — aka 4K / 8K, OLED, connected TV and second-screen interaction) is almost an exact mirror of the high-profile launches from last year's show. The good news, however, is that there are plenty of reasons to be optimistic that this is the year we'll actually see the technology become available and / or more useful in our daily lives.

For an example of what we'll be seeing as the future of TV, one needs only to look at the 2012 Summer Olympics. NBC's tape delay shenanigans aside, the broadcaster brought a worldwide event — with fully connected second-screen apps, interactivity and even streaming video — to the major mobile device platforms for the first time ever. It was also broadcast in both 3D and 8K UHD, providing an early peek at what viewers can expect over the next decade.

In late 2012, both LG and Sony unleashed their first



4K consumer displays, and in 2013 we expect to see them joined by many others. An industry push for higher resolution should bring updated specs for storing and connecting compatible devices, as well as content from the studios. While consumer interest in the pixel-dense TVs has yet to be determined, if the prices plunge below \$10,000 we'll at least be presented with the question of whether or not an 84-inch, 3,840 x 2,160 display makes sense for the living room — and we can't wait.

While the situation for connected TVs and apps residing in the displays themselves is as murky as ever, the continued growth of tablets and the ubiquity of smartphones has made second-screen functionality a must in the modern era. During the Olympics, we were just as entertained by live tweets and Instagram postings from the athletes, and even other viewers, as anything in the broadcast itself — attempting to tie all that information together is sure to be a focus going forward. We also have the expectation of being able to watch content when, where and how we want. While licensing agreements and pay-TV anchors will continue to slow development there, “TV Everywhere” is finally showing some signs of being a real thing and not just a buzzword.

Oh, and OLED? We saw its ultrathin frames and gaudy contrast ratios at last year's show in prototypes presented by LG and Samsung. However, as 2012 came to a close, neither managed to put a set on the shelf of our local big-box electronics store. Still, we're cautiously optimistic that this is the year that we'll see a new challenger in display tech alongside LCD and plasma, and it's about time.

During the last CES we did have some surprises, with Sony floating the possibility of its Crystal LED display technology and Ceton flashing its Q Windows Media Center-powered DVR. Neither materialized in products this year, but with competition heating up in the set-top

**WE HAVE THE  
EXPECTATION OF  
BEING ABLE TO  
WATCH CONTENT  
WHEN, WHERE  
AND HOW WE  
WANT.**



box market and several electronics giants looking for a leg up as we move on to the next stage of HDTV, anything is possible.

BY BEN GILBERT

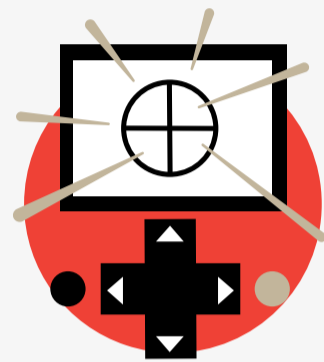
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# GAMING

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## GAMING AND CES ARE ESTRANGED PARTNERS

— CES spawned the annual Electronic Entertainment Expo (E3 for short) way back in 1995, after gaming exhibitors required more space than CES could offer. As such, the game industry's presence at CES is ... well, there isn't much of a presence to speak of.

Smart, smaller companies have traditionally taken good advantage of this; CES 2012 featured the unveiling of the Wikipad and Razer's Project Fiona, while Gaikai gave us our first hands-on with its LG-based game streaming service. As for the big three console manufacturers? Nintendo gave press another chance to check out the Wii U, but it was nothing more than the E3 demo many had seen months earlier.

This year is shaping up to be similar in many regards, with Razer's Project Fiona — following a crowdsourcing of its specs — finally getting a final form factor. Of course, it's unlikely that's the only news we'll hear from the gaming-centric hardware manufacturer this year, and we'll have CEO Min-Liang Tan on our stage to talk all about both the knowns and unknowns. Similarly,



Nyko will be on-hand showcasing new console peripherals, no doubt with a focus on Nintendo's brand-new U. NVIDIA's yet-to-be-announced Tegra 4 could also make an appearance, though we're inclined to say it'll wait for Mobile World Congress in February (like so many mobiles missing from CES).

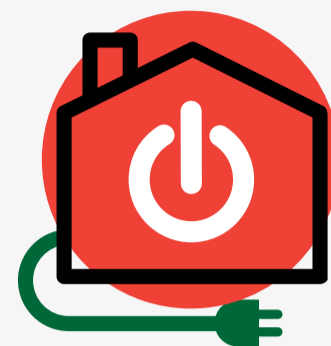
And then there are exciting dark horse possibilities like the first "Steambox" prototypes — not from Valve, mind you, but from third parties jumping in on the action. Valve head Gabe Newell already predicted that various PC manufacturers would be getting in on the living room-friendly action in 2013, combining low-cost PC hardware with Steam's Linux version and the upcoming Big Picture Mode (already available to Windows and OS X users). Of all the possibilities, this one is both the most exciting and the most unlikely, so we're holding onto our four-leaf clovers with a hefty helping of skepticism.

As for the much-ballyhooed "next generation" of gaming consoles, CES 2013 is a rather unlikely place for unveils. Nintendo isn't attending CES in any official capacity — as of yet, at least — so we don't expect to see anything on the Wii U or 3DS fronts (aside from the aforementioned third-party peripherals, that is). Microsoft notoriously ended its annual CES keynotes last year, and Sony's focus tends to be on its electronics and mobile wings rather than the PlayStation brand. We'll no doubt see mentions of Sony's PlayStation Mobile service, and we're hoping that Sony will finally show off the fruits of that Gaikai acquisition (though that may wait until E3, sadly), but don't hold your breath for the next PlayStation or Xbox announcements.

As per usual, the games industry and CES are acquaintances at best — at least from what we've heard thus far. Perhaps this will be the one that bucks the years-long trend, but we're not betting on it.

**THERE ARE  
EXCITING  
DARK HORSE  
POSSIBILITIES  
LIKE THE FIRST  
"STEAMBOX"  
PROTOTYPES.**





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# HOUSEHOLD

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**LAST YEAR, WE SAW THE LIKES OF MOTOROLA, LG and Samsung continue to demonstrate their technical skills on washing machines, fridges, home automation and even cars. While some Engadget editors struggled to see even half the appeal of those WiFi-connected washing machines at CES**

2012, Motorola's Connected Home gateway showed a realistic vision of how a wireless home should work, with its gateway router tying your Android devices to your thermostat, security system and lighting. However, we haven't heard much since then from Motorola when it comes to its household system, so it wouldn't surprise us if the Google-owned manufacturer has a refreshed, possibly deeper system to show us this time. But what else will the middle of Nevada have to offer the forward-looking homemaker in the new year?

Given that the Qi wireless charging standard is now arriving on two of this year's biggest smartphones, we hope that all those wire-shirking companies will have plenty of new lightweight, innovative and subtle ways to charge our new slabs. Getting rid of an awkward charging case is a good start, but we'd love to see contact charging plates stylishly massaged into our household surfaces and furnishings.

On a similar aesthetic premise, Nest's presence in the staid thermostat business (and its induction into Apple stores) should mean we'll see others improve their efforts in a largely untapped market — getting rid of those awkward monochrome LCD control panels lingering on



our walls. It's a good bet, however, that the smartphone (or tablet) will continue to replace "unnecessary" interfaces and buttons cluttering up your home, whether that's through a WiFi-connected TV remote, on-screen home energy management, shopping list reminders through a hooked-up refrigerator or possibly even a dishwasher with remote activation.

But can we expect something completely new? There's a good chance that Samsung or LG could offer some wallet-breaking additions to their catalogs (think a clothes-refreshing wardrobe, digital blinds or maybe even a connected wine cellar), but it's always tough to pin down exactly what will appear next. Regardless, we'll be there to scope out any outlandish additions.

BY DANA WOLLMAN



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# LAPTOPS

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**IT'S INCREDIBLE TO THINK THAT WHEN CES 2012 kicked off a year ago, we had only reviewed five Ultrabooks. Yep, five. Enough to count on one hand. Even weirder, we still hadn't seen that many by the time we wrapped our coverage of the show. Sure, a few companies teased ultraportables they**

planned to release later in the year, but these only represented a slice of the 100-plus models slated to launch in 2012. And that didn't even include all the Ultrabook imposters! Ever hear of Sleekbooks? Ultrathins? Who-



ever said PCs are dead clearly doesn't have to review them for a living.

In any event, the months passed and we've since seen a hundred different models (or at least it feels like it), with most of them running Windows 8. And who could've guessed what a difference an OS would make? Back around CES 2012, we thought regular old, non-touch Ultrabooks would still be easy to come by. We thought the Lenovo IdeaPad Yoga, whose screen folds all the way back, would be the strangest-looking laptop we saw.

As it turns out, the Yoga is one of many Windows 8 convertibles we've handled, and it's rare that we review an Ultrabook without a touchscreen. Until OEMs figure out which form factors consumers like best, we expect them to announce at least a few more eye-catching designs at CES. And, just as the original wave of Ultrabooks were followed by a slew of more affordable models, we expect to see some more mid-range offerings — you know, ones that don't start at \$1,200.

The truth is, though, we know of at least three major companies that won't be announcing anything at CES (sorry, thanks to confidentiality agreements, we can't name names right now). That could be a result of Microsoft having a reduced presence at the show, but it also might be that mixed reviews of Windows 8 systems have led some companies to go back to the drawing board and retool whatever it was they had in the pipeline. Meanwhile, as we said, companies that do plan to unveil products are going to play it pretty safe this time around, with budget laptops and older systems getting upgraded with touchscreens, or new color options. Word on the street, though, is that some PC makers will instead choose to launch their wares at the Mobile World Congress trade show taking place in Barcelona in late February. So... see you in Spain, then?

**WE THOUGHT  
THE LENOVO  
IDEAPAD YOGA ...  
WOULD BE THE  
STRANGEST-  
LOOKING LAPTOP  
WE SAW.**







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# SMARTPHONES

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## IT GOES WITHOUT SAYING THAT SMARTPHONES

are now an integral part of the consumer electronics industry, and each January plenty of them are exhibited at the Consumer Electronics Show (CES) in Las Vegas. While many companies are understandably silent about their plans for the massive trade show, we've been able to gather a pretty solid idea of what we can expect to see as the show descends upon us.

Historically, CES has been the preferred smartphone launch venue for US carriers offering a peek at their Q1 / Q2 roadmaps and a handful of global companies looking to generate buzz before Mobile World Congress in February. Few manufacturers reveal their worldwide flagships at the show, however, so we're left (more often than not) with a smattering of products that typically don't raise the bar for innovation or design. As an example, our top picks for last year's show were the Nokia Lumia 900 for AT&T and the Sony Xperia S; neither phone picked up much traction as the year progressed. In fact, the last "groundbreaking" mobile product in recent memory was the Atrix 4G and its accompanying LapDock — and we all know how that turned out in the end.

Our point is that despite the fact that thousands of companies will be clamoring for the spotlight at CES, we don't expect to see many head-turning products that will make any sort of impact on the mobile industry. That doesn't mean we're going to come away from the show empty-handed: ZTE has confirmed that it will



be announcing a 5-inch FHD (1080p) device called the Grand S on January 8th, and it's quite possible that a few other previously unseen products will show up at its booth. Additionally, Huawei acknowledged on Sina Weibo that it would introduce its first Windows Phone 8 device (the Ascend W1) as well as a 5-inch FHD smartphone to compete against its Chinese rival. There are also hints that a 6.1-inch behemoth called the Ascend Mate is on the way sometime soon, though it may not appear until MWC.

We're also expecting a couple devices from Sony called the Xperia Z (Yuga) and Xperia ZL (Odin). The rumor mill regarding this pair of Android phones is incredibly lively at the moment (we've seen a full review of the former and photos of both), and signs are pointing toward 5-inch 1080p displays and quad-core processors on both models; we'd venture to guess that a 13-megapixel Exmor RS sensor is a good bet on at least one of them, since Sony has hinted that it would be arriving early this year (and that it's also found on the Oppo Find 5).

As we mentioned earlier, we'll likely get some new carrier-specific phones. We'll probably see a new Pantech model on AT&T, just like we did last year with the Burst, but the network is staying incredibly silent on other potential devices that may show up, if any are planned. Same goes for T-Mobile, Sprint and Verizon.

Finally, let's tackle the companies that most likely won't have much of a presence at this year's outing. RIM isn't listed as an exhibitor, which should come as little surprise — it's saving its BlackBerry 10 announcement for a standalone event on January 30th. Additionally, LG has confirmed to us that it isn't planning to release any new devices at the show, and Samsung has stated publicly that “no major mobile news” is in the works — though it didn't say anything about “minor” mobile news, so we may come face-to-face with a Galaxy Grand

**WE DON'T  
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MANY HEAD-  
TURNING  
PRODUCTS THAT  
WILL MAKE ANY  
SORT OF IMPACT.**



or other budget / midrange phones.

Three companies are keeping a little *too* quiet about their plans. Motorola doesn't appear to have any tricks up its sleeves this go-round; Nokia's only booth will be related to its mapping and commerce division, though we'd love to see a working demo of Windows Phone 7.8 somewhere; and HTC usually waits until MWC to unveil its flagship Android products.

Simply put, CES will likely be a quiet show on the mobile side — there will be plenty of phones to see but only a select few will impress. Regardless, the reveal is oftentimes the most fun part, and you can expect us to talk about each and every one that happens at this year's CES.

BY JOSEPH VOLPE

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# TABLETS

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## TABLETS: THE OTHER LIVING ROOM SCREEN.

For a category that was once regarded as an odd-duck luxury for the early adopter, 2012 certainly saw the portable computing tech grow closer to becoming a true laptop alternative.

With an ever-increasing number of high-resolution displays, faster multi-core processors, a range of form factors and varied price points, it seems there's now a tab for just about everyone. So while last January's CES brought us news of 1,920 x 1,200 screens, quad-core CPUs and a proliferation of An-



droid Ice Cream Sandwich offerings, the year ahead aims to take that same tack and turn it up a few notches. That said, don't expect this upcoming CES to play host to a glut of next-gen tablet reveals — from what we gather, many major manufacturers are holding off for Mobile World Congress 2013's more focused global stage.

It's a mainstay now, but back at the start of this past CES, Microsoft's Windows 8 platform was still far from release. But despite that OS' infancy, several OEMs still went on record showcasing convertible tablet builds running the full platform and its RT version. This year, prepare for a wider range of manufacturers to join the Windows 8 brigade, offering simple slates alongside various hybrid designs.

If any one company deserves a pat on the back for making tablets more accessible in 2012, it's Google. After all, the company's open source, device-agnostic Ice Cream Sandwich software is largely responsible for driving down prices and getting tablets into more consumer hands. The perils of that mobile operating system are well-known — namely, inconsistent UI skins — but that's all the more reason for manufacturers to continue to align with Android and put an individual stamp on their tablet wares. While you can still look forward to a smattering of newly announced ICS tabs spread across the show floor, more deserved attention should be turned to Android slates running Jelly Bean builds.


We already have Google's own Samsung-made Nexus 10 as a high-water mark for a reference design, what with its 10-inch screen, *Butter*-smooth Android 4.2 OS and Retina-like 2,560 x 1,600 resolution. And with the release of that tab still fresh in consumers' minds, it's likely forward-facing OEMs targeting the high-end space will follow suit, issuing copycat 10-inch takes with equal or better eye-watering displays.

There was a time when four cores seemed pretty progressive for an SoC — that time being 2012. No longer, as that



particular setup grows more commonplace as a spec, trickling down into the smartphone and tablet markets. So, no, the cluttered convention halls of CES 2013 won't necessarily herald the arrival of five- (or even eight-) core CPUs, but we could be in store for tabs outfitted with faster quad-core chips. Case in point, NVIDIA's rumored LTE-capable Tegra 4, allegedly clocked up to 2GHz or Intel's Red Ridge Medfield chip, which we saw pop up at the FCC earlier this month.

Initially, 7-inch tablets were written off by most of the industry as too small to bother with, leaving the playing field wide open. Fortunately, one company saw untapped potential in that palm-friendly form factor and went on to dominate the consumer space. Yes, we're talking about Amazon's Kindle Fire: the dark horse tablet entry priced to sell. And sell it did, so much so that it moved the titans of tech to innovate the space, with Google enlisting ASUS' engineering for its popular and affordable Nexus 7 reference tab (named for its relatively diminutive size) and even Apple, which once infamously disavowed the smaller format altogether, releasing the 7.9-inch iPad mini. No doubt, the year ahead will see a heavier emphasis placed not only on these smaller-sized tabs (hello, potential Galaxy Note 7), but also on shrinking silhouettes and MSRPs.

While we used to think CES was the be-all and end-all for major product innovations and announcements, 2013's show is shaping up to be somewhat of a sleeper on the tablet front. That's not to say we won't see an array of smaller Android slates with faster quad-core CPUs, eye-popping high-res displays or a plethora of Windows RT hybrids — we surely will. But whereas the show floor would've been dominated by an abundance of next-gen tablets at shows past, this year promises to be quieter. Chalk it up to the reduced noise that comes from MWC's smartphone and tablet-focused show, but OEMs aren't eyeing Vegas in January as their main world stage. No, for that you'll have to wait for Barcelona in February. 

**2013'S SHOW  
IS SHAPING  
UP TO BE  
SOMEWHAT OF  
A SLEEPER ON  
THE TABLET  
FRONT.**



# ESOC

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VISUALIZED

## NETWORKED FLOTILLA



One of this year's Winter Lights exhibits at London's Canary Wharf is a colorful interactive flotilla of LED boats entitled "The Voyage." Design team Aether & Hemera, comprised of media architect Claudio Benghi and lighting designer Gloria Ronchi, took a token of youth, the paper boat, and added a bit of Arduino tech to allow passers-by to paint the glowing fleet in colors of their choice. Visitors simply connect their smartphones to the Raspberry Pi-powered WiFi network and weave a bit of their own flare into the environment.

PHOTOGRAPH BY PETER MATTHEWS / COURTESY OF AETHER & HEMERA



# TAYLOR HAATMAKER



The **TECH WRITER** talks about Tamagotchi life lessons and the social-mediated brain.

**What gadget do you depend on most?**

As much as I love mobile, I mean, it might actually be a pathological kind of love at this point, I can't pretend that my 13-inch MacBook Air isn't the most essential device I own. Tablets and smartphones still can't beat the speed and utility of a notebook.

**Which do you look back upon most fondly?**

I have a lot of nostalgia for my

first Canon PowerShot ELPH point-and-shoot. It packed a whopping 2-megapixel sensor and was like a tiny silver brick, but it's the first digital camera that never left my side. Well, until I got sand in the lens one spring break. But I still take pictures constantly. I also learned a lot about life from a Tamagotchi.

**Which company does the most to push the industry?**



**“I can handle a little wonkiness if a given thing is innovative.”**

Google — it’s got a dog in every fight. Big data, hardware, social, AR ... everything. Google is right there at every bleeding edge, for better or worse.

**What is your operating system of choice?**

Stock Android. With Jelly Bean, I feel like Android has finally arrived — my Nexus 4 feels like a glossy little slab from the future.

**What are your favorite gadget names?**

I love to hate on all the hyper-masculine, ridiculous Android smartphone names that the first Droid ad campaign kicked off. Droid RAZR MAXX HD-2 Deathstar. Only alt caps could make it better.

**What are your least favorite?**

Oh wait, I think I just answered that.

**Which app do you depend on most?**

I love productivity apps, but I have a constant rotation that I haven’t quite pinned down yet. As much as I want to be “that Evernote person,” I’m trying to

rely on Springpad as my little activity hub at the moment. The app is gorgeous and almost makes organization feel fun. Almost.

**What traits do you most deplore in a smartphone?**

When everything else is perfect, but the camera sucks. That makes a phone wholly useless, as far as I’m concerned. Also, manufacturer skins. Don’t get me started.

**Which do you most admire?**

Thoughtful design. Apple has this on lock, obviously.

**What is your idea of the perfect device?**

An iPhone 5 running Android 4.2.

**What is your earliest gadget memory?**

Hmm. I think my Dad bought me an NES for making straight A’s in the first grade. That obviously set off an unstoppable causal chain that led me to this moment.

**What technological advancement do you most admire?**

WiFi is pretty ridiculously cool.

**Which do you most despise?**

I love social media, I’m absolutely steeped in it, but I do think it’s wrought some kind of irrevocable mental damage that I’ll discover 20 years from now in some ultra-





HD future version of a brain scan. I'm not one of those people who has a balance figured out yet, as you can tell.

**What fault are you most tolerant of in a gadget?**

I can handle a little wonkiness if a given thing is innovative or useful enough.

**Which are you most intolerant of?**

An unresponsive UI. There's really no excuse.

**When has your smartphone been of the most help?**

Getting around in a new city, navigating to a new place — anything that involves mapping. I love being able to learn so much about my physical location in space so easily — that's the real thing I couldn't do without.

**What device do you covet most?**

As an early adopter, I have very little self-control when it comes to new gadgets I'm interested in — the interval between coveting and ownership is very short. That said, I've always wanted one of those gorgeous 27-inch Apple displays. And I wouldn't mind a Canon 5D Mark III ...

**If you could change one thing about your phone what would it be?**

Right now, I'm using an iPhone 4S and a Nexus 4. I'd smash them together into some kind of hybrid superphone, you know, if I had the option.

**What does being connected mean to you?**

I'm really fascinated with all of the citizen journalism of the last few years, and its very real capacity to effect social and political change. Social networks are such a potent tool for raising awareness and connecting people from very different walks of life.


Even thinking about something like the "It Gets Better" campaign taking off 10 years ago is just unimaginable. Watching social good go viral is a powerful thing. It kind of blows my mind.

**When are you least likely to reply to an email?**

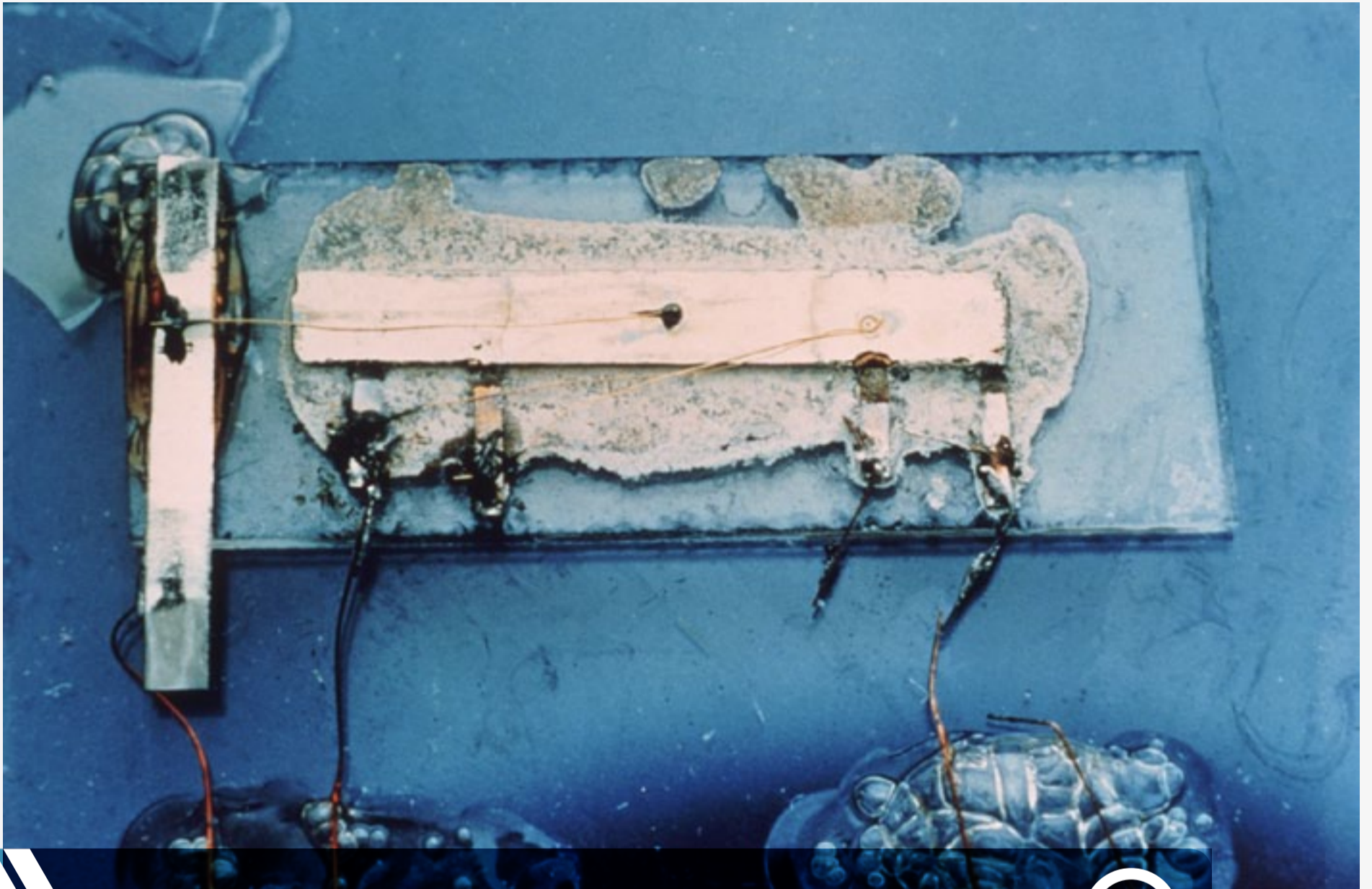
When a flaw in my elaborate Gmail filter system sends it to some remote corner of my inbox, never to be heard from again.

**When did you last disconnect?**

I try to disconnect on weekends. I live in Portland, and I like to get outdoors and be proximal to trees and stuff.

If I didn't do that, I'd never have anything to Instagram. 



INTEGRATED  
CIRCUIT

With all the hype last year about wearable tech and ultrathin gadgets, it's only fitting that we take a moment to look back at an invention that helped make it all happen, the integrated circuit. Newly employed at Texas Instruments during the summer of 1958 and without vacation days, Jack Kilby had the whole office to himself and focused on solving the problem of miniaturizing electrical circuits. His idea was to make the circuit components and chip out of one semiconducting block of material with a fine layer of metal mesh on top to make the connections. It eliminated the need for wires and component assemblies and ushered in the age of microelectronics.



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