Flexson puts SONOS in its place: wherever you want your music.

Flexson specializes in accessories for SONOS, from wall mounts and floorstands to ColourPlay colour skins, a range of Custom Install (CI) solutions and an expanding line of VinylPlay turntables.

Based in London, England, Flexson’s solutions are precision engineered to perfectly match the size and style of the SONOS components. Every product has a host of clever features, from tilt and swivel functionality to cable routing – all are made of superior materials and adds a touch of elegance to any room.
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STRANGER THAN (SCIENCE) FICTION

ELON MUSK’S SPACE X has set 2027 as its target for putting humans on Mars. NASA recently found flowing water on the Red Planet. But with average temperatures at the mid-latitudes around -50°C and an atmosphere made up of 96% carbon dioxide, Mars imposes serious roadblocks to colonization. Mars is also 250 million miles away.

But when have such challenges ever stopped the human spirit? All we need to do is place giant mirror-sails in orbit around Mars to reflect sunlight to its poles. With Mars a few degrees warmer and water flowing, we’re in business! Tweak human genes to allow a new species that can tolerate higher CO₂ levels, and colonizing is just a matter of time.

This still sounds like the stuff of science fiction. But 20 years ago, most of what we cover in this magazine would have been inconceivable to most people.

Consider virtual reality, an idea that seems straight out of Star Wars or Star Trek. As Frank Lenk writes in his feature “The Future Is Virtual,” the ability “to intuitively manipulate imaginary objects, or engage with other connected users in a shared fantasy” is here now. Facebook has invested over US$1 billion in the technology.

Christine Persaud’s story on The Internet of Things tackles an area that not long ago would have seemed to have come from an episode of The Jetsons. Opening a garage door with your phone, programming your heating system on your way back from the cottage, or getting an alert of movement in your living room: those applications are not only here today, they’re affordable, and they’re easy to set up and use. I sometimes wonder why we are not all walking around with our mouths gaping wide, saying WOW all day long. This stuff is insanely cool.

My first memory of being awestruck with technology comes from the summer of 1984. I was working for North Sails and we were building a new mainsail for a U.S.-based racing yacht. The client faxed us specifications for the sail. I had never seen a fax machine before, and I still remember watching spellbound as a drawing being sent from 2,000 miles away emerged right in front of me.

The other night, I got curious about other people’s “wow” technology moments. So I posted the question on our Facebook page. When you think about it, that’s a wow in itself: I reached over 3,000 FB followers and within a few hours, I received over 40 responses. How crazy is that? Forty heartfelt nostalgic stories of the day technology wowed someone!

I encourage you to read what our readers shared (facebook.com/wifihifimag). Some stories that resonated were accounts of watching a VCR for the first time, and being able to record a favourite TV show. I can picture the wow moment of the two girls discovering they could record songs from the radio onto a cassette. Watching colour TV for the first time was a common memory, and so was enjoying music on-the-go via a Sony Walkman.

One FB friend mentioned her first car phone. That’s not to be confused with one’s first mobile phone, she emphasized, because that’s a different beast entirely. As she wondered at the time, “why would anyone ever need a phone to walk around with?”

Being able to play games online against strangers, discovering a chat room, the Internet, receiving a first e-mail, CD players, seeing a digital camera for the first time: the list goes on and on. Turns out that we all have wow technology moments.

So many strangers, sharing stories that when read collectively, revolve around the joy of entertainment and sharing memories. That should put smiles on all of our faces, seeing as it’s our industry that brings these wow moments to the world!

Perhaps 20 years from now, I will be shouting-out a similar question on Facebook. But instead of written responses, I may receive holographic images of participants telling me their stories “face-to-face.” Sounds pretty sci-fi, but I wouldn’t bet against it.

Enjoy the issue!

John Thomson
jthomson@wifihifi.ca
Introducing the new Gateway HDPVR.

Enjoy primetime, anytime with the ability to record six HD shows at once.*

Add Portals to each additional TV to share recordings throughout the entire home, or use as a standalone HDPVR.**

shaw.ca/gateway

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*HD programming available in industry standard MPEG-2 and/or MPEG-4 formats. HD picture quality may vary and depends on customer equipment. Additional Portals required for simultaneous viewing of more than one recorded program. **A maximum of 6 TVs (requiring 5 Portals) can be connected.
**Digitally Check Your Bags:** Soon, you'll find digital tags in Rimowa luggage that will let you check in for a flight, including checking your bag, from a mobile app. Luggage details are sent via Bluetooth from the smartphone to the suitcase, and displayed on the built-in data module's E Ink screen. Once you arrive at the airport, simply drop off your suitcase. The electronic tag looks just like the standard paper one, and includes the green EU stripe required by customers for all flights departing from European airports. The important information is protected from moisture, heat, cold, shocks and vibration and cannot be accidentally torn off, unlike a paper label. Lufthansa is the first airline to integrate the feature into its app. Available early next year. Rimowa.com

**HiFi on Your Head:** The Sennheiser HD 471 over-the-ear, closed-back headphones have dynamic drivers and neodymium magnets, and employ tangle-free single-sided detachable cables with inline microphones and controls for use with mobile devices. Available in iOS and Android versions, they boast a more neutral signature versus heavy bass, and come with a 6.33mm adapter for use with home hi-fi equipment, as well as a carrying pouch. $130 Sennheiser.ca

**Let Your Inner DJ Out:** The compact (13.4" x 3.9") Hercules DJControl Compact controller allows budding DJs to practice and prepare their mixes from virtually anywhere. Create control loops, effects, samples and cue points using the two sets of four pads, tweak the sound of tracks using the dual two-band equalizers (one per deck), and control the volume independently on both tracks. Even do some scratching using the dual jog wheels. Also use it as a backup system, or for an impromptu session at a party - all that's needed is a PC or Mac with a USB port, a pair of speakers, and a music playlist. It comes with DJUCED 18° mixing software. US$70 Hercules.com

**Adapt Your TV to 4K:** Kensington (Cesium) Video Adapters for 4K Ultra HD TVs include the VU4000 with USB 3.0 to HDMI connection (MSRP US$100) that plugs into a USB 3.0 port on a laptop to connect to the HDMI video cable; and the VU4000D with USB 3.0 to DisplayPort connection (US$100) that plugs into a USB 3.0 port on a laptop to connect to the DisplayPort video cable. Both allow users to view their content in Ultra HD on a monitor, projector, or TV, and either mirror their laptop screen or extend it for increased productivity. Enjoy 4K resolution from a laptop to a 4K monitor, TV or projector without the need for a 4K graphics card. The adapters are compatible with Windows 8.1, 8, 7, and are backwards-compatible with 1,080p displays. Kensington.com

**Forget Apple’s It’s-Not-a-Stylus Pencil:** Adonit’s Jot Dash stylus pen (Atlantia) can be used with compatible mobile devices (iOS, Android) and note-taking/sketching apps. It has a 1.9mm tip for a “more natural, penlike stroke.” There’s a power button at the top, power indicator on the 8.5mm long aluminum shaft, and a carrying clip so you can slot it in a shirt pocket. It recharges in its dock in about 45 minutes, then can run for up to 14 hours. It will automatically go into sleep mode after 15 minutes of inactivity. The best part? There’s no Bluetooth connection needed. Charcoal or silver, $80 Adonit.net

**Just the Numbers:** If you work mainly with numbers, sometimes a standard travel wireless keyboard just won’t cut it. Satechi’s newest consists of just a numeric keypad to complement a standard QWERTY keyboard, or to be used on its own when you’re strictly crunching figures in a spreadsheet. The slim Wireless Numeric Keypad is finished in glossy black, and will work from up to 32 feet away from the connected device, including desktop and laptop computers or tablets. It comes equipped with a full keypad with number lock. US$30 Satechi.net
Listen to Your Speakers
In A New Way

Don’t let your existing wired loudspeakers miss out on high-resolution streaming audio. Paradigm’s new PW AMP delivers 200-Watts of Ultra Class-D power and lets you wirelessly stream high-resolution audio to existing loudspeakers over your home Wi-Fi network. Set-up is simple, app control is easy, and your options are unlimited. Go wireless, with Paradigm-level performance.

Exclusive *Anthem Room Correction (ARC®)* technology uses a digital microphone with advanced DSP algorithms to correct for room distortions in any space. You’ll actually hear the difference ARC makes. *No other wireless streaming amplifier has ARC.*

A Better Audio Experience.

Stream music to any Paradigm Premium Wireless Series product using your Android, PC or iOS device. Only Paradigm delivers wireless performance that is truly on par with traditional non-streaming audio systems.

Visit paradigm.com for more info.
SHORT BITS

A New Nexus Marshmallow: The Nexus 5X, the third collaboration between LG and Google, is based on the latest Android 6.0 “Marshmallow” operating system. The smartphone has a 5.2” 423ppi Full HD IPS display, is powered by a 1.8GHz Qualcomm Snapdragon 808 processor, has a Type-C USB port, 12.3MP rear camera and 5MP front camera. The 2,700mAh battery can quick charge in just 10 minutes to offer up to four hours of battery life. In addition to photos, the smartphone can capture 4K and slow-motion videos. It uses a fingerprint sensor for security, as well as Android Pay in the U.S. Pricing TBA. Google.com

Four Ports: Using Logiix’s USB-A 4-Port Desktop Hub (Atlantia), you can extend the connectivity of your computer by connecting up to four USB 3.0 devices at a time – from card readers, to portable fans, cameras, or other gear. It boasts an anti-slip design so it will stay put on your desk, and is compatible with Windows XP/Vista/7/8, Mac OS, and Linux. $40 Logiix.net

Plug in Any Which Way: Ever plug your USB cable in the wrong way? Scosche (Atlantia, Staub) is offering the new EZTIP line of reversible micro USB connectors. Similar to reversible Type-C USB connectors, the EZTIP can be plugged in both ways, thus reducing the possibility for damage. The STRIKEDRIV EEZTIP, a 12W, 2.4amp car charger for smartphones, tablets, and other mobile devices, fits flush in most vehicles, and its three-foot coiled cable allows for easy and tangle-free cable management. More coming throughout the rest of 2015. US$20 Scosche.com

Chant With Water: The exterior of the House of Marley Chant Sport portable Bluetooth speaker (HoMedics) is IPX7 water-resistant and made of recycled blended bio-plastic, silicone and recyclable aluminum. Its cylindrical design allows it to float, and can easily fit a water bottle cage or average cup holder. Sound emits from the pair of 4.5-watt 1.75” drivers and two passive radiators. Wireless playback is via Bluetooth 4.0; or use the auxiliary input for a wired connection. The built-in mic allows it to be used as a speakerphone as well. Enjoy up to eight hours of playback on a charge of the lithium-ion battery. US$120 Thehouseofmarley.ca

‘Phones for the Kidz: There’s no minimum age for enjoying maximum wireless sound. Kidz Gear BT68KGXX Bluetooth stereo headphones come in blue and pink, with a patented removable omnidirectional Boom Microphone, which can come in handy for kids learning a new language, AV verbal test-taking at school, and at-home gaming. Using KidSync audio syncing through a multi-button interface, the ‘phones can be set up and paired with a variety of AV devices. US$60 Gearforkidz.com

Poker Night, Anyone?: If you often host poker nights at your place, you can impress your buddies with the Nexus 21 lift-activated Speakeasy portable table. At first glance, it looks like a basic poker table, with Teflon-treated cloth, a soft elbow rail, and milled stainless steel drink holders. But who wants to get up in the middle of a big game to refresh your beverage? Press a button (or remote touchpad or controller) and a concealed, revolving whisky and spirits bar silently glides up from inside the base of the table using Nexus 21’s telescoping lift system. It even has a poker chip vault and card storage area. Made in the U.S. of hardwood, it ships fully assembled – just attach the tabletop. Automation retailers: this is a great thinking-outside-the-box idea to help boost revenues. US$8,500 TVlift.com
Your Very Own Droid: R2-D2, watch out. Sphero has created a Star Wars-inspired droid “companion” (it’s not a toy – I swear!) that has an adaptive personality, to respond as you give it voice commands and play (or, work) with it. Control the BB-8 using an Android or iOS smartphone or tablet, and it will display a range of expressions, and even perk up when you give it a voice command. Plus, there’s the ability to capture holographic videos from the device. It connects to your smartphone via Bluetooth, and charges via its induction dock: you get one hour of time with your own personal robot per charge. $150 Sphero.com

Wireless Sound via Bluetooth & Wi-Fi: Why choose one or the other? Bose’s SoundTouch 10 wireless speaker (and now all SoundTouch speakers) boasts both Bluetooth and Wi-Fi. Pair your mobile device to a single SoundTouch speaker via Bluetooth, or connect multiple throughout the home over Wi-Fi. Play one source through all, or different sources through each. By early next year, the partner app will be fully integrated with Spotify so that you can control playback from the Bose SoundTouch app, or control SoundTouch speakers through the Spotify app. Available in black or white, the speaker has six preset buttons on the top (and on the included remote) for instant access to your favourite playlists and stations. US$200 Bose.ca

Stylish Shadow: Booq’s Shadow messenger bag (black or grey) can hold a 15” MacBook or PC in a padded compartment, and other accessories in a zippered pocket. The exterior of the grey Shadow features a water-resistant fibre, custom nylon seatbelt shoulder strap and a front flap that’s secured with aluminum buckles, and smooth polyester inside. The black version uses a water-resistant 1680D ballistic nylon material (nylon inside as well), custom nylon seatbelt shoulder strap and a front flap that’s secured with plastic buckles. Both include a large back pocket for exterior storage. Like all Booq bags, the Shadow comes with a Terraling serial number, a service provided by Booq designed to help owners recover lost bags. US$130 (black), US$160 (grey). Booqbags.com

Atmos, DTX:S Receiver: Atmos or DTS:X? The Denon AVR-X6200W network 9.2-channel AV receiver (D+M Canada) features both object-based audio technologies, the latter via a future free firmware update. Support for Auro-3D surround can also be added with a paid firmware update. It can power 5.1.4 or 7.1.2 Dolby Atmos configurations out of the box, and the 11.2-channel processor and 13.2-channel pre-outs allow for 7.1.4 and 9.1.2 Atmos configurations with the addition of an external two-channel amplifier; as well as various custom configurations for multi-zone entertainment. It supports HDCP 2.2 copy protection, and is über-connected, with eight HDMI inputs, three HDMI outputs (all HDMI 2.0a), built-in Bluetooth, Wi-Fi, and support for Apple AirPlay and DLNA music streaming. $2,600 Usa.denon.com

Get the Party Started: Whether you are looking for a cool speaker to pump music at your next party or considering renting out such gear to customers, Nyne’s ADS15 (Xcel Source) is a two-way active speaker that comes in a case and with rolling wheels, and can play back music in large spaces through 2,500 watts of peak power. It boasts a 15” woofer and horn tweeter, and comes with a height-adjustable tripod stand so DJs can position it perfectly. Several can be daisy-chained together. Play back tunes via NFC using an NFC-enabled device, 3.5mm aux or USB connection, or even from an SD card. It also comes with integrated FM radio and 30 presets; and a wired mic if you want to belt out some karaoke or make PA announcements. The speaker measures 18 x 14 x 28 inches, and weighs 36 lbs. Nyne.com

This Drone is a Toy: Before you get into the big models, check out a toy drone like the Quadforce Video Drone from Xtreem, which measures about a foot long, and boasts four axes and a lightweight (3.28 oz.) design. It can perform 4D stunts, tumbles, and does advanced flight moves, such as continuous rolling. Use the built-in colour HD video camera and included 4GB microSD card to record about 30 minutes of video footage at 720p resolution. Fly time is up to eight minutes per charge, and it can go up to 330 feet inside or 100 feet outside. It comes with a landing pad game. US$90 Swannstore.com
**For all the Lonely Starbucks Lovers:** No, those aren’t the actual lyrics to the popular Taylor Swift song *Blank Space*. But joking aside, Starbucks is appealing to its biggest fans in the Greater Toronto Area (GTA) by bringing its popular **Mobile Order & Pay service** to 300 company-owned stores in the region. Patrons can now order ahead from their iPhones using the app, customize orders (down to their choice of skim milk or extra whipped), get an estimated time for pickup, pay from the account balance, then simply arrive, grab the java, and go. Surely, there’s no way the barista can get your name wrong now, is there? Starbucks plans to expand the service to other select Canadian cities next year. *Starbucks.ca*

**Rogers Now Lets You Stream in 4K:** Gigabit monthly Internet plans? Those are now a reality through Rogers, which will also offer live sports broadcasts in 4K. It requires a new set-top box to handle the resolution, including High Dynamic Range (HDR) technology. Content includes every Toronto Blue Jay home game in 2016 and 20 “marquee” NHL games, starting with the Toronto Maple Leafs against the Montreal Canadiens on January 23, 2016. Over 100 hours of content on Shomi will also be streamed in 4K, and there’s love for the competition as the box will support Netflix’s 4K streams, too. The 1Gbps plan offers four times the speed of the Rogers Ignite 250Mbps home Internet plan ($95/mo., $70 for the first three), and will cost $150/mo., with no data caps. Pricing for the new set-top box is TBA. *Rogers.com*

**It’s Pure Juice:** The 16K PureGear PureJuice portable battery pack (Cesium) weighs just under 13 ounces, and offers up to 60 hours of additional battery and talk time for your smartphone. Its 16,000 mAh battery can fully recharge a MacBook with a USB Type-C connector, or charge a phone and tablet simultaneously up to three times using its two USB ports. It will automatically shut off when the device is fully charged to help conserve power, and status indicator lights show progress. US$80 *Pure-gear.com*

**Model:X:** Tesla Motors’ Model X is the world’s only all-electric SUV, and the performance version is the world’s fastest and fastest-accelerating: its top speed is 155mph, or almost 250kph. It can reach 60mph from 0 in just 3.2 seconds. It comes in six- and seven-seat configurations, with every seat individually mounted and adjustable, leather upholstered, and with a 17” touchscreen. The doors open upward, Back to the Future Delorean-style. Range for the 90kWh battery is about 250-257 miles. New orders will be delivered in the latter half of 2016; US$93,000-$142,000. U.S. owners will be eligible for a $7,500 tax credit. *Teslamotors.com*

**Doctor Who ‘Phones:** Massive Audio has developed a pair of headphones that will appeal to avid fans of the TV series *Doctor Who*. Licensed from BBC Worldwide North America, the **TARDIS and DW over-ear Bluetooth and Wired ‘phones** feature built-in buttons for controlling tracks, volume, phone calls, and bass boost; and a built-in mic. The rechargeable battery lasts 30 hours with constant music. The Wired Headphones come with an inline control box with the same features and microphone. Both include a *Doctor Who*-branded carry bag and flat tangle-free wire packed in a collector’s-style windowed gift box. US$70-US$120 *Massiveaudio.com*

**Affordable Projection:** Epson’s Home Cinema 640 employs 3LCD technology, maximum colour and white brightness of 3,200 lumens, and a native resolution of 800x600 pixels. It can produce pictures from 30 to 300 inches diagonally, plus has a built-in speaker, and HDMI, composite, S-video and VGA inputs. Vertical keystone correction is automatic; a slider bar is used for horizontal keystone correction. Enjoy movies at home on the super-big screen for $440. *Epson.ca*
#### Smaller Headset:
While it isn’t completely hidden, the Jabra Eclipse in-ear headset (Affinity Electronics) is smaller than other headsets, and lightweight at just 5.5 grams. They are designed to help block out ambient noise, and boast HD voice technology. Shipping with a portable charging and storage case, the headset can run for three hours, and the charging case adds up to seven more hours. To make a call, double tap the headset. Use the Jabra Assist app to customize the headset further. Black, $150 Jabra.ca

#### Charge From the Wall:
There’s no shortage of innovative ways to incorporate mobile device chargers into the home. And the WallJax is no exception. There’s the EZ mount, which plugs into a standard 120V outlet and still permits access to the two regular AC outlets beneath it (plus a USB on its bottom), and the Float version, which can be mounted anywhere using adhesive or screws. Of course to achieve the true “floating” look, you’d have to run the wires behind the wall. It works with Qi-enabled devices, or you can place a Qi charging case on a device like an iPhone to make it compatible. Estimated shipping date is May/June 2016; pricing ranges from $60-$80, or $100 for a Float two-pack for early backers, retail price TBA. Indiegogo.com

#### Truly Tuned Sound:
The new Sonos PLAY:5 (Staub Electronics) has six synchronized, custom-designed drivers, three mid-woofers, and three tweeters for a wider soundstage. You can place one horizontally, pair it with a second vertically for stereo sound, or pair two horizontally for a more immersive, room-filling experience. Touch controls for play, pause, volume adjust, and track change, are responsive regardless of the orientation via smart sensors. With Trueplay speaker-tuning software, the speaker uses an iPhone’s or iPad’s mic to follow a special tone and analyze how sound reflects off walls, furnishings, glass and other surfaces in any given room, then tunes that speaker to the environment. Launching later this year, Trueplay will be available on all Sonos PLAY:1, PLAY:3, and PLAY:5 products using iOS controllers (iOS 7 and higher), with more support to come over time. Black or white, $549. Sonos.com

#### High-Res Headphones:
The in-ear T20 and T20i headphones from British headphones specialist RHA (Erikson Consumer) both carry Hi-Res Audio certification, conforming to the standards defined by the Japan Audio Society. RHA’s proprietary DualCoil driver technology includes two independently-powered voice coils in concentric formation around an annular magnet. Housed in stainless steel that was created using metal injection moulding (MIM), a custom tuning filter can be used for sound signature adjustment, and, in addition to a balanced reference filter, the ‘phones also include filters to adjust emphasis on bass or treble frequencies. T20 is $320, and T20i, which adds an Apple-compatible mic/remote, is $320. Rha-audio.com

#### Siri, Find Me a Show:
Depress a dedicated Siri button on the new Apple TV remote to ask it just about anything: from finding the series Orphan Black, to searching for any movie starring Tom Cruise or music video featuring Taylor Swift, or even skipping back to repeat a piece of missed dialogue. It’s also easier to search within the available apps using Siri. Powered by an A8 chip, Apple TV, which now operates on its own tvOS, even has a new Apple TV App Store; and a glass touch surface that can be used to scroll through options, or operate games. US$150 (32GB), US$200 (64GB). Apple.ca

#### Home for Your Apple Watch:
The DOCK from Native Union (ReSource Group) automatically puts the Apple Watch into night mode once it’s placed inside horizontally, or rotate the Watch vertically for a more natural view while lying down. The rotating arm allows for easy access to illuminate the watch screen, and operate the side and Digital Crown buttons to turn off or snooze your alarm. The design is reversible, allowing you to position the arm on whichever side is most convenient. The Apple Watch’s magnetic charging cable is fed into the dock where it is locked in place, eliminating messy wires. US$60 Nativeunion.com
DIY SMART DEVICES

ATTEMPTING TO UNIFY DIY
Platforms like If This Then That (IFTTT) are attempting to unify the DIY industry by allowing users to set up various rules with compatible devices. So if I was to turn on my lights, for example, then my thermostat would also kick up a few degrees.

Two brands, in particular, stand out in a larger effort to bring more DIY devices together: Nest with its Works With Nest program, and Apple’s HomeKit. Nest products, including its smart thermostat, smoke detector, and camera (Staub Electronics), already integrate with thousands of other devices, like the Chamberlain MyQ garage door locks (ReSource Group Canada) and Jawbone activity trackers. With the former, the lock tells the thermostat when you aren’t home so it can adjust heating and cooling to save energy.

Apple’s HomeKit, meanwhile, works much the same way, with integration from Siri as well for voice control. For example, you could tell Siri that you’re headed to bed, and this would trigger other HomeKit-enabled devices to turn off the lights, lock the doors, and set the thermostat accordingly.

Not surprisingly, several companies have jumped on board, including Philips, which just released a HomeKit-compatible bridge for its smart bulbs, and August, which is planning a HomeKit version of its smart door lock.

Others include Z-Wave and ZigBee. Belkin has its own ecosystem with WeMo, as does D-Link with its Connected Home line, iSmartAlarm (distributed in Canada by Microcel), and Panasonic with its new Home Monitoring System. Products in the lines range from indoor and outdoor security cameras, to motion sensors, door/window sensors, glass-break sensors, and water-leak sensors. In most cases, it’s

IN THE SEPTEMBER ISSUE of WiFi HiFi (http://wifihifi.dgtlpub.com), we walked you through a fully automated, app-controlled home. The system, which includes audio, video, lighting, security, shades, and HVAC, is wired and controllable via a single Savant home control app. It, however, required installation from professional integrators and security specialists.

Automation can also be achieved more affordably, on a mainstream level. This trend for the smart home, love it or hate it, is known in the industry as do-it-yourself, or DIY. And as awareness grows, consumers are testing the waters with one or two entry-level products that can be controlled by individual smartphone apps.

When it comes to home technology control, DIY isn’t like the DIY you might see in other categories, where an ambitious homeowner buys raw materials to build or renovate his own project. It’s a much simpler process that involves a quick setup and an app download. In other words, you can “do it yourself” rather than having to hire an integrator, electrician, or other professional tradesperson to install or program equipment for you.

Gear ranges from garage door openers and Bluetooth-enabled door locks, to security cameras, thermostats, and even sprinklers. In most cases, setup is easy enough for even the most technophobic person to understand. Customers have the freedom to try what they like, or buy just what they need, without committing to a full-on, whole-home installation. Or not.

The downside is that because most devices are independently controlled through separate apps, it can become cumbersome as you add more devices. In the world of the Internet of Things (IoT), there are a heck of a lot of, well, “things,” and numerous ways to access them. But over the past few years, several brands have paired up for interoperability.

Canary’s wireless indoor HD IP camera (Microcel) lets you tag a pet, for example, so it can record the type of movement and recognize when it’s just a pet crawling versus an intruder. The algorithms, explains a company rep, look at details like the snout, shape of the face, and bend of the animal’s legs to be able to discern between a dog and a burglar crawling on the floor.
a single button push to pair new devices and add them to the systems. But all of the compatible gear is offered under each respective company’s own brand. “We try to make it as simple as possible,” says Panasonic’s Product Manager Andrei Nicoara.

The Wink Hub, offered exclusively in Canada through Home Depot, is another option hoping to streamline the process for customers who want a small selection of DIY items from different brands. While he admits that the native apps for each product are “great” since they are each made for the specific devices, Craig Bowler, Divisional Product Manager at Home Depot Canada, lauds the Hub’s ability to bring them all together into an app that serves as a “one-stop-shop.”

The Hub connects to your router, and supports various wireless protocols, including Bluetooth, Z-Wave, ZigBee, Wi-Fi, and Lutron Clear Connect to then control a wide range of third-party devices, including lighting from Lutron and Leviton, Schlage deadbolts, Nest, Canary, Ecobee, Chamberlain, Philips, and more, from the app. But Wink has hit a snag: parent company Quirky filed for Chapter 11 bankruptcy protection in September. Flextronics, the contract manufacturer that originally built the device, has placed a US$15 million bid for Wink. While many believe the brand will continue under new ownership, its future remains unknown.

Steve Gaskin, Senior Product Manager at Microcel Corporation, which distributes DIY smart home products from Belkin WeMo, Canary, Sen.se Mother, and iSmartAlarm, points to Amazon’s Echo as another platform with potential. “But it will not hit critical mass,” he opines, “until the masses begin to perceive everyday benefits from the category.” (The Echo hasn’t yet made its way to Canada.)

As these systems emerge, privacy remains a concern. The more devices you have connected to Wi-Fi, the more potential entry points there are for someone to access your personal information. It might be an unlikely scenario, but the number of families who have seen hackers take over seemingly innocent home baby monitors proves that sometimes, malicious people don’t even need a viable motive to make you a target.

Panasonic’s choice to operate its Home Monitoring System on the DECT platform, the same technology used for the company’s home telephones, is one way to address the issue. “Most cameras have an IP address,” says Nicoara, “so if someone gets that address, they can get access to the camera itself and hack into it and watch inside. Without an IP address, it’s a lot more difficult for hackers to get by this layer of protection.”

With door locks, companies like August, for example, address issues through two-factor authentication, with two different PIN codes sent to the owner, one to his mobile device and another to his e-mail, in order to pair with the lock.

DIY AND THE CUSTOM INTEGRATION SPACE
Just coming off the heels of CEDIA in Dallas, TX, one would think that the growing DIY trend has dedicated automation brands and integrators shaking in their boots. Why would customers pay big bucks for a whole-home integrated system when they can buy various doo-hickeys for a couple hundreds bucks each and set them up themselves?

Surprisingly, however, the industry views are quite the opposite. Many integrators see DIY as promotion for their business: customers choose devices they like, but the more they add, the more frustrated they become when the experience isn’t seamless. And this is where the upgrade cycle begins.

CEDIA’s Size and Scope of the Residential Electronic Systems Industry survey predicted that systems integrators and installers stateside would complete more residential projects by the end of this year than in each of the last four, with average gross revenues topping US$2.5 million, up from US$2.2 million. The median home theatre price sold was US$16,666, with half costing less, and the median audio installation was US$11,000.

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“Despite a glut of inexpensive components hitting retail shelves,” says Dave Pedigo, Senior Director of Learning & Emerging Technologies at CEDIA, “consumers are selecting new, higher-end technologies such as Ultra HD/4K televisions and smart-home components that tie their entertainment, lighting, control, and security systems together.”

“It’s coming full circle back to where we started,” one Toronto-based custom integrator told us at the show. “It used to be that you had five different remotes on your coffee table, and then they launched the universal remote to simplify this process. Now, with DIY, we have 10 different apps, and a fully integrated system provides just one to control everything.”

This isn’t stopping traditional automation companies from trying to cash in on the DIY trend, though. Savant’s new Remote (Evolution Home Entertainment), revealed at CEDIA, appeals to more entry-level customers. Using the device, you can access and control popular services and devices, like Sonos, Roku, and lighting products, by both a touch screen and voice commands. It’s still on the higher end at US$500 (plus $100 each for controllers). But that still puts the device in line with a product like a Logitech Harmony universal remote, which is aimed at that same customer segment. And it perfectly illustrates the need, even in an entry-level space, to simplify the DIY device control process.

A smart home event held by Best Buy in early October unintentionally showcased how important this is. The retailer demonstrated about 60 automation products from 13 vendors throughout a loft-style downtown Toronto residence. Moving from room to room, we were shown a different app to control a different product in almost every instance. The loft was just itching for a Savant or Crestron or Control4 system sitting at the heart to manage it all from a single interface.

Regardless, there will always be that customer who is content with just Philips Hue bulbs, a Chamberlain garage door opener, and a Nest thermostat. Microcel’s Gaskin says that buying into a whole ecosystem simply doesn’t work for some customers. “We’re focused on single solutions that specifically address everyday tasks,” he says. “We feel this is the easiest and quickest way to educate and create needs for adopters.”

So, DIY smart devices can be a simple solution to one or two tasks in the home, or a stepping stone to whole-home integration down the line.

WHERE ARE WE WITH DIY IoT?

NPD Canada conducted a survey earlier this year that found that while more than 80% of Canadian consumers are aware of home automation products, only 16% report owning one.

But interest in the category is growing. NPD Group’s Dave Adamchick says that close to 60% of consumers have expressed some interest in purchasing at least one home automation product. “Strong consumer interest is certainly the first step towards adoption,” he says, “and we expect this category to continue to expand moving forward.”

Not surprisingly, NPD data suggests that men aged 18-34 are the top adopters of home automation, and those in Quebec have the highest awareness of the technology. More than half of early adopters are under the age of 45, and 52% have a household income of less than $72,000, suggesting the young, single crowd versus the family. Which presents a solid opportunity, as the benefits of smart home devices for families, particularly those with young kids, are tremendous.

NPD reports emotional drivers outweigh functional ones when it comes to security products. And when you’re talking about energy management products, financial benefits are the most influential in helping a customer make a purchasing decision.

It may be the result of availability and abundance of choice, but NPD research indicates that consumers are most aware of security cameras and alarm systems. Bowler confirms that safety

A Best Buy smart home event in downtown Toronto showcased more than 60 connected devices from 13 vendors. And while the system was impressive, it was begging for a unified app to control everything, pointing to the continued need for integration specialists for whole-home solutions.
As wearable technology becomes more integrated in our daily health and wellness routines, having the right accessories to enhance their diverse functions is more important than ever. Here are 7 great products to help you improve your performance.

1. Tucano Armband, for smartphones up to 5.5"
2. Sol Republic Relay Sport, in-ear headphones
3. Scosche Rhythm+ Heart Rate Monitor
4. Spigen Tough Armor, shell for Apple Watch
5. Tucano Waistband, for smartphones up to 5"
6. LOGiiX Blue Piston Elements, weatherproof speaker
7. TwelveSouth HiRise, charging stand for Apple Watch
and security gear is currently one of the hottest segments in smart home for Home Depot. Many of the retailer’s customers travel or have second homes, which makes connected cameras, as well as lights, an attractive solution.

The fact that fewer than one in four current automation device owners have opted for a whole-home system suggests that there’s plenty of opportunity to introduce new consumers to the app-controlled, DIY world.

What’s the easiest product to get a consumer started in smart home gear? According to Bowler, it’s a connected light bulb because it’s very low cost and easy to connect and use. Once customers realize this, they can grow from there.

“Every customer is going to want something different for a different reason,” he adds.

And Bowler says in many cases, customers come in with some idea already about what they want. They’ve done their research and know, for instance, that they want to look at the Nest thermostat and learn a bit more about its details, features, and benefits.

**THE “BRAIN” OF ANY SYSTEM**

As noted, you can do everything from remotely open your garage door to let the FedEx delivery man or neighbour inside, to adjust the colour of your lights to reflect to your mood, all from your smartphone. Arguably, the top three categories in DIY smart home gear are connected cameras, automated light bulbs, and temperature control.

Regardless of what DIY smart gear a consumer has or how much, the least sexy but more important item in the equation is the router, which serves as the brains, so to speak, of the operation. A Wi-Fi-connected device won’t work as desired if the network to which it is connected is not fast and reliable. And it has to be able to handle the bandwidth required to run your DIY smart gear, plus other common gear in the home, which might include an Apple TV streaming Netflix, desktop and laptop computers, and several smartphones and tablets.

Given that, one of the biggest hindrances to more widespread adoption of DIY is the consumer’s failure to upgrade his router. So the first upsell recommendation should be on a top-line router, if the customer indicates that he has an unsuitable one at home.

There are plenty of options to suit multi-device needs, like the Linksys Tri-band wireless AC3200 Gigabit router, which lets you dedicate different devices to different bands to ensure optimal performance for all; prioritize devices (e.g. if you want your Apple TV to be a top priority); set up parental controls to limit the kids’ online time; and even block Websites. All of that can be controlled through the mobile app. It’s a $300 investment, but worth it to ensure that all of the connected devices run smoothly. Or, there’s the D-Link Wireless AC1900 Dual Band Gigabit Router, which uses band-steering technology to distribute traffic as needed, and Advanced Beamforming to track connected devices for enhanced Wi-Fi speed and range. It, too, can be managed remotely from the mobile app.

**MOVING TO THE MAINSTREAM**

While the DIY smart home category is growing, there’s still a lot of work to be done to encourage mainstream consumer adoption. Apple’s HomeKit will likely have a significant impact on the category as more compatible devices emerge. And as more devices interoperate with one another, it’ll begin to make the idea of the DIY smart home more palatable for those who want more than just one or two devices.

But to move things along, the benefits of the smart home beyond the cool factor still need to be better communicated to consumers: money savings, remote access and alerts, safety, security, and peace of mind, convenience, and time-saving, are just a few.

Panasonic’s Nicoara came from the food business, and says one observation he immediately made about the CE industry is that companies focus too much on the technical aspects and specs of a product instead of its key benefits. “What does the product actually do for me and my life?” he asks. Once that shift in the marketing and education is made, it will help drive this category forward.

Early next year, Home Depot will be adding weekend home automation workshops, where customers can learn about various devices and their benefits. Panasonic and Microcell are focusing on strategies like videos and in-store demos that can show how easy their systems are to install and expand. Many customers believe that they “don’t really need it,” says Gaskin, until they actually see and understand the benefits. Gaskin says Microcell encourages retailers to develop dedicated product displayers that can serve as “silent salesmen” to show value to early adopters.

Training salespeople is also important. “If we can really have our team understand the importance and relevance of the product...our associates can help steer customers to the right solution,” says Bowler.
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Marketing is another crucial part of the equation: getting customers familiar with brands and equating them with the benefits they provide. Nest, for example, has done a great job at that, as has Philips with Hue.

**ACHIEVING THE SMART, PERSONALIZED SYSTEM**

Argus Insights’ Connected Home Demand Report for June suggests that the success of the DIY smart-home market will depend on how smart a product can be, and how manufacturers can address customer scepticism about reliability. And, we’d add, security and privacy concerns.

John Feland, CEO of Argus Insights, opines that many of the DIY devices on the market today were built for the Internet of Things and not the “Internet of Humans,” which is also leading to slower adoption.

Gartner predicted that by 2020, we’d see more than 25 billion IoT devices in use. Many of those will be lighting, audio, video, security, and other sensors within the home. And the reality is that not all of these devices will communicate with one another. But that might be okay.

The DIY smart home, Bowler suggests, is like having an iPhone. Two people may both have one, but they don’t have the same apps. “And that’s really what a home automation solution is to every customer,” he says. “It’s very personal to them. I may focus on security and convenience, but someone else may want gear more for energy efficiency.”

The goal for now is to offer consumers a wide range of options and let them choose for themselves. It might be confusing at first, but as consumers test the waters and begin to build their own ecosystems, they’ll decide what’s right for them, if they want new gear, and maybe even eventually move up another level to a full-fledged home automation system.

“DIY will not be a category killer this year,” says Gaskin. “But we’ll get our feet wet for next year.”

And that’s good news for the industry. wh

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GAME CHANGER

Ultra-High-Def Television is About to Take Off

BY GORDON BROCKHOUSE

IT’S A SAFE BET that a large proportion of this magazine’s readers are hockey fans as well as videophiles. If that describes you, you should mark January 23, 2016 in your calendar. That night, the Montreal Canadiens face off against the Maple Leafs at Toronto’s Air Canada Centre. The Saturday-night game will be the first of more than 20 marquee NHL games that Rogers Sportsnet will offer in 4K video.

If hockey’s not your game, you might want to circle April 8 in your calendar. That’s when the Boston Red Sox visit the Rogers Centre for the Toronto Blue Jays’ 2016 home opener. Sportsnet plans to offer all 81 Blue Jays home games in ultra-high-definition, not just with 4K resolution, but with HDR (high dynamic range) video as well. As I’ll discuss below, HDR is an even bigger deal than 4K resolution.

Rogers Communications Inc. made the blockbuster announcement at the Rogers Centre on October 5, right at the beginning of the Blue Jays’ playoff run. It provides a powerful answer to the perennial question about Ultra-High-Def television: where’s the content? For Canadians, can there be a more compelling answer than Hockey Night in Canada and Blue Jays baseball?

These games will be available to Rogers Cable subscribers, but will require a new set-top box. There will be versions of the 4K box with and without PVR functionality, says Aaron Lazarus, Senior Director of Public Affairs for Rogers. Rogers hasn’t announced what it will charge for the terminal, or for 4K video service.

Under Canada’s telecommunications regulations, Rogers has to make this content available to other cable, satellite and IPTV services, and the company has confirmed that its 4K Sportsnet feed will be available to other providers. At presstime, none had announced plans to carry Sportsnet in 4K. But Vidéotron Ltd. announced a 4K box back in August, so it’s reasonable to expect that the company will make Sportnet 4K available to its customers.

What about videophiles who aren’t sports fans? Rogers promises “over 100 hours of 4K movies, series and TV shows” on Shomi, the video-streaming service it co-owns with Shaw Communications Inc. Rogers also announced a partnership with Netflix, whereby original Netflix series, such as House of Cards, Sense8 and Narcos, will be available on Rogers’ 4K box.

Of course, Netflix’s 4K offerings are also available through the Netflix apps in the smart-TV platforms of virtually all 4K TVs. Besides several original series, Netflix offers some 4K nature documentaries, plus all five seasons of Breaking Bad. In the U.S., Netflix has some compelling feature movies in 4K, such as Skyfall and Star Trek: Into Darkness.

During LG’s and Sony’s press conferences at CES 2015, Netflix announced plans to offer 4K content with HDR during 2015, and treated attendees to some tantalizing glimpses. With under two months to go in the year, we’ve yet to see this. But Season 1 of Marco Polo is reportedly being remastered in HDR, and will be available this year. Season 2 is being shot in HDR, and will be available in 4K and HDR upon release.

A VISUAL FEAST

So three years after the first 4K ultra-high-definition TVs hit the market, the content question is being addressed. Of course, all UHD televisions upconvert regular HD programming; and the resulting picture often looks smoother and more detailed than the same content viewed on a regular HDTV. But to unlock the potential of UHD displays, you really want native UHD content.

Ideally, that content will offer the UHD full-meal deal. Part of that is 4K resolution – 3,840 x 2,160 pixels – the native resolution of all those new UHD televisions, which is four times as many as regular...
HDTV. To really benefit from 4K resolution, you need a big screen and you need to be sitting fairly close. The benefits of HDR and WCG (wide colour gamut) can be appreciated on any size screen, at any reasonable viewing distance. Because of this, I prefer the more-encompassing “UHD” as a descriptor for these new TVs, rather than “4K,” which just refers to resolution.

HDR will deliver pictures with deeper blacks and brighter colours, and also finer gradation of tones and colours. With baseball, that could allow bright details like highlights on players’ helmets to be rendered convincingly, rather than being blown out. At the opposite end of the tonal scale, HDR should allow dark details like textures in umpires’ jackets to be resolved, rather than being crushed to black.

It’s a pity that Sportsnet isn’t offering NHL games in HDR next year, because it could really help convey the dazzling experience of a live hockey game, holding detail in the ice under bright lights, and in players’ uniforms as well. Even it doesn’t arrive this season, HDR will certainly come to hockey at some point.

Ultra HD also gives program providers the option of delivering a broader range of colours. It supports the BT.2020 colour space, which encompasses more colours than the BT.709 colour space used for today’s HDTV standard (and analog TV before that). This allows for shades, such as the deep red of a London bus or the brilliant blue-green of a Caribbean beach, that can’t be encoded with regular TV.

Judging by demonstrations at recent trade-shows and dealer events, viewers are in for a visual feast when full-blown Ultra HD television appears. I recall being blown away by a nighttime scene from Life of Pi on a new Samsung UHD television at CES 2015, with stars sparkling brilliantly against a black sky, and phosphorescent marine life clearly visible below the surface of the ocean. The brilliant daytime scene was every bit next year, Rogers Communications will launch a new 4K video service. About the same time, Ultra HD Blu-ray players will hit the market.

These UHD services and disc formats are answering the biggest question consumers have about 4K: where’s the content?

With UHD, 4K resolution is only part of the story. High dynamic range and wide colour gamut provide more significant improvements in picture quality.

This holiday season, 30% of Canadian TV dollar sales will come from ultra-high-definition televisions.
UHD UPDATE

The new set-top boxes and Ultra Blu-ray players will require the latest version of HDMI: HDMI 2.0a, along with HDCP 2.2 copy protection. The importance of robust copy protection was underscored in August, when the encryption system used by Netflix for its 4K service was hacked, and a 4K version of the pilot for *Breaking Bad* appeared in the wild.

Many UHD televisions with older flavours of HDMI and HDCP will be able to get UHD services like Netflix through their proprietary smart-TV platforms. They may connect to new 4K set-top boxes and Ultra HD Blu-ray players, and play UHD content. But in that case, UHD content will be scaled back to regular HD.

THE CONTENT QUESTION


Warner Bros. Home Entertainment has already announced several titles mastered in Dolby Vision, which is an optional format on Ultra HD Blu-ray. These include *San Andreas*, *Mad Max:...*
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UHD UPDATE

Fury Road, Magic Mike XXL, Jupiter Ascending, Man of Steel and The Great Gatsby.

Dolby Vision maps HDR playback to the capabilities of the display device, whether it’s a cinema digital projector or consumer flat panel. The display must be Dolby Vision-certified, because the Dolby Vision processor in the player has to know its capabilities and limits. The only Dolby Vision TVs that have been announced so far are Vizio’s flagship Reference series, which are slated to ship in the U.S. by year-end.

Since the spring, several studios have released movies for display in Dolby Cinema theatres, which feature Dolby Atmos immersive audio and ultra-high-contrast Dolby Cinema projection systems. These titles include Inside Out and Tomorrowland from Disney; The Hunger Games: Mockingjay from Lionsgate; Mission: Impossible – Rogue Nation from Paramount; The Perfect Guy and Pixels from Sony Pictures; Maze Runner: The Scorch Trials and The Martian from Twentieth Century Fox; Everest from Universal; Pan and San Andreas from Warner Bros. You gotta think these titles will appear on Ultra HD Blu-ray sooner rather than later.

We’ll also see studios reaching into their vaults and re-releasing old titles in Ultra HD Blu-ray. Joel Silver, President and Founder of the Imaging Science Foundation, says that process has been streamlined with the introduction by Technicolor of tools that automate the first pass of converting a title to HDR. Typically, the automated process will successfully upconvert 80% of the footage, Silver says, “and the colourist can take over from there.”

It will be interesting to see how the new format fares, and where it’s sold. No one is saying anything about pricing yet, other than that the first players will be expensive.

Given the fact that video stores have basically disappeared, it’s unlikely that a rental model will develop for Ultra HD Blu-ray. I’m sure Ultra Blu-ray movies will be sold by Amazon, and probably in chains like HMV. But as happened with other format rollouts, I think it will also be up to AV retailers to offer discs.

WHO’S READY?

Most TV manufacturers are now in their third or fourth generation of UHD products. With 2015 models, buyers can take it for granted the television will support the HEVC (High Efficiency Video Codec) format used by Netflix for its 4K service. HEVC is also the standard format with Ultra HD Blu-ray.

But manufacturers vary in their support of HDR and WCG video. The ability to read HDR streams can be enabled via a firmware update. Similarly, HDMI 2.0 can be enhanced to HDMI 2.0a (which adds HDR support) by updating firmware. However, HDCP 2.2 compatibility requires dedicated hardware. If it’s not built into the set, it can’t be added afterward.

Hisense: This rapidly growing Chinese brand has two series of 4K TVs for 2015. The H7 series includes a 50-incher at $1,000, a 55-incher at $1,300 and 65-incher at $2,300. There’s just one model in the flagship H10 series, the 65” 65H10 at $3,500. This curved-screen model uses quantum-dot technology, which allows it to produce a broader range of colours, and has full-array backlighting with 240-zone local dimming. “We can control each LED,” says Lindsay Takashima, Vice President Sales and Marketing, Hisense Canada Co., Ltd. “The contrast is phenomenal.”

A firmware update will add HDMI 2.0a compliance, making the 65H10 compatible with external components like Ultra HD Blu-ray players and UHD set-top boxes. “The plan for next year is that all of our 4K models will be HDR-capable,” Takashima says.

“Moving forward, we’ll have an array of 4K products under two different brands,” he adds, referring to Hisense’s recent acquisition of Sharp Electronics’ North American TV business. Besides

Hisense’s curved 65” 65H10 4K television is HDR-ready. It employs quantum-dot technology for expanded colour gamut, and full-array backlighting with 240-zone local dimming for maximum contrast.

Shown at CEDIA, Vizio’s Reference Series are the first Dolby Vision-certified televisions to hit the market. There are two models: a 65-inch priced at US$6,000, and a gargantuan 120-inch priced at US$130,000. Talk about a statement piece!
rights to the Sharp brand (and Aquos sub-brand), Hisense acquired two TV assembly plants in Mexico. “Our main goal is to grow the Hisense brand in the Americas,” Takashima says. “But the Sharp brand has equity in North America, and we’re going to continue with that.”

**LG:** With their anthracite-deep blacks, OLED TVs seem tailor-made for HDR. Whereas LCD TVs have a light source behind or around the screen, OLED TVs have self-illuminating pixels, so that no light at all is emitted in black areas of the picture.

LG is the only manufacturer currently offering big-screen OLED TVs in North America. Al Forte, Senior Director, Home Electronics for LG Electronics Canada Inc., attributes LG’s leadership to the white OLED technology it purchased from Kodak in 2009. Yields are higher with white OLED panels compared to RGB designs, driving down production costs. And white OLED ages more gracefully, delivering more consistent performance over a longer period.

In November, LG will begin shipping two curved-screen UHD OLED televisions to Canadian dealers: the 55" SSEG9200 at $4,500 and 65" 6SEG9600 at $8,000. On both TVs, a firmware update will enable HDR capability from the built-in streaming app for Netflix. On the 55SEG9200, the HDMI port can’t be upgraded to read the HDR signals in external UHD components like Ultra HD Blu-ray players and UHD set-top boxes. But the 65SEG9600 has HDMI 2.0a connectivity and HDCP 2.2 support, providing full compatibility with external UHD components.

Full HDR support will be offered on two new flat OLED televisions announced by LG at CEDIA. Forte says LG Canada will launch flat UHD OLED screens in 2016.

**Panasonic:** Not surprisingly, HDR support is not offered on Panasonic’s two carry-over flagship TVs from 2014: the 65" TC-65AX900 and 85" TC-85AX850. But Panasonic’s 2015 UHD models will support HDR video with a firmware update. They have HDMI 2.0a ports with HDCP 2.2 compatibility, for connection to UHD components like Ultra HD Blu-ray players and 4K set-top boxes.

There are nine models, starting with the 50" TC-50CX600 at $1,500 and extending to the 55" TC-55CX850 at $2,500 and 65" TC-65CX850 at $3,500. The CX850 series is THX-certified, and employ a backlighting system with phosphor-treated LEDs. This enables the 65-incher to cover 98% of the DCI colour space used in digital cinemas. CX850-series TVs are also Control4-compatible for integration into Control4 smart-home systems, and have an ISFcc mode for professional calibration. “These TVs are perfect for the CI channel, which is where they’re targeted,” says Barry Murray, Director of Marketing for Panasonic Canada Inc.

“We have other technologies that we’re looking at for next year,” Murray adds. At IFA Berlin, Panasonic showed a 65" curved OLED UHD television; but has not announced North American plans for the product.

**Samsung:** Samsung brands its premium UHD models as S’UHD, all of them employing a quantum-dot layer that extends colour gamut, a feature that Samsung markets as “Nano Crystal Colour.”

At IFA Berlin, Samsung announced a firmware update for its S’UHD lineup, as well as its more conventional UHD line, that will enable HDMI 2.0a compatibility so that they can receive HDR data from Ultra HD Blu-ray players and UHD set-top boxes.

Samsung is unique in providing backward compatibility to premium models from previous years, through a One Connect Box that connects to a proprietary port on the TV. Priced at $400, the 2015 UHD One Connect Box provides HDMI 2.0 and HDCP 2.2 compatibility to 2013 and 2014 models, as well as support for the HEVC format used by Netflix for UHD streaming, and the VP9 format used by YouTube. “With the One Connect Box, as 4K evolves, we can evolve along with it,” Bugos says.

**Sony:** In September, Sony released a firmware update for all of its 2015 4K televisions that adds HDR compatibility. Available in 55”, 65” and 75” sizes, the X850 series features phosphor-treated LEDs that deliver an expanded colour gamut, a feature Sony markets as “Triluminos,” and Sony’s X1 processor for managing HDR content. A similar feature set is offered on the super-slim X900/ X910series, also available in 55”, 65” and 75” sizes. Employing top and bottom edge-lighting, the 65” XBR-65X930 adds zone dimming for improved contrast. Sony’s flagship UHD TV, the 75” XBR-75X940, has full-array LED backlighting with local dimming. “HDR is incredible on that TV,” says Karol Warminiec, National Manager, Training and Events, for Sony of Canada Ltd. “Everybody who sees it, their jaw just drops.”

**Vizio:** At CEDIA, Vizio showed its new Reference-series televisions, both featuring full-array backlighting with 384-zone local dimming, 800 nits peak brightness and expanded colour
gamut. They’re the first TVs to support Dolby Vision, and have built-in apps for streaming Dolby Vision movies from Vudu, which is available only in the U.S. The 65” RS-65B2 will retail for US$6,000 and the 120” RS-120B2 for US$130,000! Vizio is taking pre-orders now, and will ship in the U.S. by year-end. There’s no word yet on Canadian availability.

SEEING IS BELIEVING

On its own, compatibility with new UHD formats doesn’t guarantee a great picture. To really enjoy UHD images and HDR, you need a display with high peak brightness, deep blacks, high contrast (either through well-implemented backlight control or self-emissive technologies like OLED), and wide colour gamut.

And you need great content. ISF President Joel Silver loves what he’s seen from Ultra HD Blu-ray. He’s has had a prototype Ultra HD Blu-ray player for testing. “I didn’t want to send it back in the worst possible way,” he states.

But Silver has been disappointed in the Netflix’s and Amazon’s 4K streaming. He attributes this to the low bitrates these services are using: 16Mbps. “I’m an unhappy customer,” Silver says. “Regular Blu-ray looks much better.” He hopes that content providers such as cable companies will learn from this, and use higher bandwidth for their UHD services.

Silver is also dismissive of 4K resolution, noting that the higher resolution is visible only on very large screens at close viewing distance. “Expanded gamut and HDR are visible from across the room,” he adds. It’s the real deal in other words.

But bad experiences may turn buyers off who have already felt burned by past experiences like 3D. “It’s the old story of the boy who cried wolf,” Silver comments. “The book gets closed, and people say UHD is a scam.” That makes a good demo essential.

Warminiec agrees that seeing is believing when it comes to UHD. For that reason, Sony of Canada is rolling out demo stations in nine key Best Buy locations, where viewers can see the benefits of Triluminos colour, 4K resolution, and backlight control. Sony will have smaller variants of this display, he adds. Comments Warminiec: “A good in-store display will be a key factor in convincing a customer to invest $1,000 more in a television.”

That’s exactly what the industry needs, says Murray of Panasonic. “HDR will be a reason to step up. The industry is looking for better justifiers to get buyers to spend more money on a TV set, rather than staying in the fat middle, where prices and profits are very tough. If you can demonstrate better picture performance, people are ready to join the party.

“It’s not like the move from CRT to flat panel,” Murray cautions. “But it will provide dealers with tangible, demonstrable benefits. There’s lots of neat stuff happening, but it’s seen by consumers as incremental.”

Takashima of Hisense says consumer awareness of 4K and UHD is still lagging. “It doesn’t come up that often,” he states. “It’s up to manufacturers and retailers to create awareness.”

That viewpoint was confirmed in an online survey conducted earlier this year by NPD Canada. Nineteen per cent of respondents said they were very or somewhat familiar with 4K and UHD, and another 19% said they know a little. “Sixty-two percent didn’t know anything,” observes Mark Haar, Director of Consumer Electronics for NPD Canada.

Still, 4K/UHD is one of the bright spots in the TV business, which is generally pretty depressed. According to NPD, Canadian sales of flat-panel TV were down 13% in unit terms and 12% in dollars for the nine months ending September 30, 2015, compared to the same period a year earlier. But sales of 4K models were up 380% in units and 215% in dollars, and accounted for 19% of total industry dollar sales.

Bugos of Samsung predicts the picture will keep getting better. “4K has had a very strong growth curve over the last two years,” he comments. “This fall, 4K will represent 30 per cent of the revenue for the industry. I suspect that will be close to 50 per cent by the end of 2016.”

With hockey, baseball and a big slate of movies coming in UHD, it’s hard to argue with that prediction. wh

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**SEEING IS BELIEVING**

On its own, compatibility with new UHD formats doesn’t guarantee a great picture. To really enjoy UHD images and HDR, you need a display with high peak brightness, deep blacks, high contrast (either through well-implemented backlight control or self-emissive technologies like OLED), and wide colour gamut.

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SEE MORE. FEEL MORE.

Introducing the all-new SUHD TV from Samsung. Immerse yourself in incredible picture quality with Samsung’s new SUHD TV. Experience breakthrough nanocrystal technology with radiant colours, striking contrast and crystal clarity that bring you closer to what you watch.

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THE SETUP
I used Andrew Jones Atmos towers for the fronts and bookshelf speakers for the rears, a PSB Image C5 as the centre channel, and PSB SubSeries 300i for the sub.

The SC-95 weighs a hefty 35 lbs. It has source-select and volume knobs at the sides of the front panel, and navigation, mode, and other controls behind a sloped flip-down door – a slight variation versus previous models.

Connectivity includes the aforementioned three HDMI 2.0a with HDCP 2.2 inputs, five HDMI 2.0 inputs, and one dedicated analog input marked as CD (though you can rename it anything you want). These HDMI 2.0a with HDCP 2.2 inputs are ideal for the upcoming Ultra HD Blu-ray, Rogers or Bell UHD broadcasts, and Netflix 4K streaming units like the Roku 4.

A noteworthy plus is Pioneer’s use of an ESS SABRE 192kHz/32-bit DAC, with a selectable audio upscaling option. This means you can choose to play your 16-bit and 24-bit digital audio signal as is, or convert it to 32-bit, and/or use 2x upsampling or 4x upsampling (with or without adding the bit-depth conversion). My choice after playing with this feature is to play all sources’ bit-depth as-is with 4x upsampling.

With the SC-95, I found speaker setup to be confusing. I was setting up a nine-channel Atmos configuration of 5.2.4, and had to use the “surround back” terminals for Atmos’ front height channels and the “front wide” terminals for Atmos height at the rear. With the SC-95, it’s a little less confusing. This year, the flow chart in the manual clearly shows what goes where.

But setup with the SC-95 is not without its hiccups. At first glance, there’s no option for a 5.2.4 set-up with this receiver. Luckily, I figured out a workaround by selecting the 7.2.4 configuration, then going to the speaker menu and “telling” the receiver that I’m not using any surround back speakers, resulting in the SC-95 automatically re-mapping the 7.2.4 setup to 5.2.4.

The Atmos-enabled speaker settings, which share specifications with a DTS:X setup, includes a low-frequency cut-off at 180Hz. A system with Atmos-enabled speakers should redirect bass below 180Hz to the front channels, then to the subwoofer as needed. This is not a flaw of the IMMERSIVE AUDIO TECHNOLOGIES including Dolby Atmos and DTS:X allow movie mixers to place sound in a hemi-spherical soundfield, with height effects that improve upon the regular flat horizontal plane of 5.1- or 7.1-channel surround. And Pioneer’s new Elite SC-95 AV receiver, along with the SC-97 and SC-99, offers both: it is Atmos-capable and DTS:X-upgradeable.

THE RECEIVER
The SC-95 ($2,000) is the baby of three new receivers in the Elite line. If you need slightly more power and a phono input, you can step-up to the SC-97; and if you need a sync-USB DAC, multi-channel input, and even more power, opt for the SC-99. Each model has nine amp channels.

The SC-95 receiver includes Apple AirPlay wireless connectivity, HTC Connect for smartphones, Spotify Connect and Pandora audio streaming, and is Roku-ready. It offers Windows 8 and DLNA certification for media access from a computer (I used Windows 10), and has both Bluetooth and Wi-Fi built-in.

It is compatible with AMX, Control4, and Crestron automation standards; I’ve found great complete control through Control4, which I’ve used with Elite products over the past five years.

The onscreen interface has been updated from its predecessor, the SC-85, to look fresher, and it appears to be purely a cosmetic upgrade. The remote control is mostly unchanged.

The iControlAVS Android/iOS app is now in its sixth or seventh generation, and still allows front/back and side/side channel adjustments with a tilt of the mobile device. From my personal measurements, with all channels driven with full spectrum audio burst, the receiver puts out 65 watts per channel RMS. But don’t let this number deceive you. Never in the history of a movie soundtrack have all channels been driven to the max with full spectrum audio continuous burst from 20Hz to 20kHz.

It is important to note that at the time of this review in early October, Pioneer had already sent a firmware upgrade to turn the unit’s three HDMI 2.0 inputs into HDMI 2.0a, now allowing for High Dynamic Range and High Frame Rate video pass-through.

For $2,000, Pioneer’s Elite SC-95 is an ultra-connected receiver that can be used in a Dolby Atmos immersive audio setup, and is upgradeable for DTS:X as well.
Neural Surround. I have no preference between in-your-face height speaker playback, choose DTS for a more sensationalistic approach, with more sound, choose Dolby Surround. If you want a more natural approach, with more openness of using DTS Neural Surround upmixer. If you want to play a Dolby TrueHD soundtrack processed using Dolby Surround Upmixer and Interestingly, I can play a DTS-HD soundtrack upmixer technology called DTS Neural Surround. With the introduction of DTS:X, DTS also has an mode adaptation... until now. To my ears, Dolby Atmos and DTS:X. I loved both of them: from Madonna’s Sticky and Sweet Concert (5.1), to Chris Botti Live in Boston (5.1), various orchestral CDs from Telarc, and even Frank Sinatra’s Duets 20th Anniversary 180g vinyl. With not a single synthesized effect or manmade pan in the recording, Dolby Surround and DTS Neural upmixers steered such natural sounding concert-hall ambience toward the ceiling. Never intrusive; it was a truly natural-feeling enhancement. For music, I prefer Dolby Surround and for movies with a lot of action, I prefer to use DTS Neural Surround.

Music in Dolby Surround & DTS Neural Upmixers

Newly-minted immersive-sound fans truly need to try Dolby Surround and DTS Neural upmixing technologies as a near-perfect stand-in for Dolby Atmos and DTS:X. I loved both of them: from Madonna’s Sticky and Sweet Concert (5.1), to Chris Botti Live in Boston (5.1), various orchestral CDs from Telarc, and even Frank Sinatra’s Duets 20th Anniversary 180g vinyl. With not a single synthesized effect or manmade pan in the recording, Dolby Surround and DTS Neural upmixers steered such natural sounding concert-hall ambience toward the ceiling. Never intrusive; it was a truly natural-feeling enhancement. For music, I prefer Dolby Surround and for movies with a lot of action, I prefer to use DTS Neural Surround.

Does music need this? Two-channel audiofi les almost always fail to recognize how much artificial effect is built into two-channel productions. The smallest number of tracks I ever used in a so-called live recording was eight, and it goes all the way up to 64, then polished with various processors such as dynamic compressor, EQ, reverb, and finally mixed down to two-channel to create a master Digital Audio Tape. Even an orchestral project I did at the Roy Thompson Hall has the soloist and the different orchestral sections separately mic’ed and mixed. If you’re already listening to a beautifully-crafted recording with all the sonic spices added in, then why not enhance it? I’ve always liked the Dolby Pro Logic II music-mode adaptation... until now. To my ears, Dolby Surround Upmixer is a much better version of it.

5.1 Cinema Lives

Tomb Raider 2 demonstrates that the surround upmixers of 5.1 (be it Dolby or DTS) are greatly underrated. The perpetually busy soundfield suggests a mixer that knows and pushes the boundaries of 5.1, filling the room with cavern ambience, gunshots and a spatially rich orchestral score.

For this nine-channel receiver, the five-channel surround with added immersive sound upmixing was a walk in the park. I often forgot that I was watching a regular 5.1 movie, not Atmos or DTS:X. Only when the helicopter approaching Croft’s Manor flew overhead did I miss the true immersive surround soundtracks. But for the most part, I was locked into the story.

Moving to the opposite extreme, I found the TV series Criminal Minds to be 5.1 at its most rudimentary. The soundtrack of this TV show consists of almost exclusively dialogue in the centre channel and sprinkles of music and effects in all four corners of the soundfield. It can’t get any more basic than this. Yet the receiver delivered the dialogue with purity and clarity and made the occasional music and effect lively and realistic.

Bottom Line

The Pioneer Elite SC-95 is a great way to run nine channels of every popular audio format available (not counting Auro3D and Hamasaki surround technologies as “popular formats.”) Yes, it’s on the pricier side at $2,000. But that’s a relatively small price to pay for cutting-edge everything, from immersive sound technologies to superior 4K video up conversion, and analog-sounding Class D amplification. The internal set of class-leading DACs and the sound up conversion package is a ticket to high-resolution audio, and the D3 amp is powerful, colourless, and energy-efficient. This receiver is just the nine-channel Swiss Army Knife needed for immersive surround sound.

PROS

- Dolby Atmos out of the box, and Dolby Surround Upmixer.
- DTS:X (firmware upgrade required), and DTS Neural Surround Upmixer (firmware upgrade required as part of DTS:X Suite).
- HDMI 2.0 with HDCP 2.2 on three HDMI inputs (upgradeable to HDMI 2.0a via firmware upgrade).

CONS

- Somewhat confusing setup menu, although much improved compared to last year’s models, not to mention many other brands.
- Difficult to read remote layout due to micro-sized buttons.
- Somewhat gimmicky smartphone app, allowing you to adjust channels by tilting the device.

receiver, though; it’s a Dolby Labs specification. As per Jones’ recommendation, I set my front Pioneer Elite tower speakers to Large and the rest of the speakers to Small with a 50Hz cut-off point, and the rest goes to the sub. For reasons unknown, I found that the MCACC-Pro, Pioneer’s auto setup program, set the levels of Atmos and surround speakers 2dB too low (this is consistent regardless of which room I was in, of the four in which I tested.)

It’s worth noting that the MCACC Pro features other refinements, including room correction for dual independent subs, finer analysis of phase and group delay, phase correction between channels, and 0.5” increments in setting speaker distance.

With the introduction of DTS:X, DTS also has an upmixer technology called DTS Neural Surround. Interestingly, I can play a DTS-HD soundtrack processed using Dolby Surround Upmixer and play a Dolby TrueHD soundtrack processed using DTS Neural Surround upmixer. If you want a more natural approach, with more openness of the sound, choose Dolby Surround. If you want a more sensationalistic approach, with more in-your-face height speaker playback, choose DTS Neural Surround. I have no preference between them – they each have their strengths. Playing movies with orchestral tracks such as A Million Ways to Die in the West, for example, I preferred Dolby Surround Upmixer as it opened up the soundfield to the point that my room seemed to disappear. For movies like Live. Die. Repeat, however, I found DTS Neural Surround to be the better option, as the ceiling speakers generated a more localized effect, which I felt to be more appropriate for this type of soundtrack.

Tony Verni, Director of Sales, Pioneer Canada, poses beside the Elite SC-95. The receiver was one of many new products the company showcased in an exhibit room in Dallas’ Omni Hotel during CEDIA.
Virtual reality and immersive fantasy experiences date back as far as the 19th century. But true VR is finally becoming affordable, with full-fledged VR equipment planned for next year.

THE FIRST EPISODE of Star Trek: The Next Generation introduced a novel concept: the holodeck, a room where any imaginable time or place could be conjured up for the amusement of the Enterprise crew. Back in 1987, it was pure science fiction. Now, in 2015, it’s about to become reality. Virtual Reality, to be exact.

Starting early next year, a number of major companies are going to be launching products that can place consumers into a virtual world. The list of hardware contenders currently includes Sony, Samsung, HTC, Google, and Facebook. Hordes of developers are working to create content for these platforms.

The first wave of consumer VR products will span a range of capabilities. But they’ll all use a headset, or Head Mounted Display (HMD), that can track head movement while presenting stereoscopic images to users’ eyes and binaural audio to their ears. They’ll transport users into an utterly convincing world, limited only by human imagination.

We may find ourselves at the helm of a spacecraft, or at the bottom of the ocean. Surrounded by zombies, or painting in midair with streams of light. We’ll be able to intuitively manipulate imaginary objects, or engage with other connected users in a shared fantasy. The potential applications are countless: education, design, communication – and, of course, entertainment.

The effect is exhilarating, and instantly addictive. Industry pioneers are fond of saying: “You can’t tell someone about VR. But as soon as they try it, everyone gets it.”

I got to try quite a bit of it at Toronto’s second Immersed conference, held at the Ontario Science Centre in October, and hosted by Neil Schneider, Executive Director of the Immersive Technology Alliance. It was an amazing chance to sample the coming VR gear, and to get a sense of the explosive creativity it’s starting to unleash.

VIRTUAL HISTORY
Jason Jerald, Co-Founder of NextGen Interactions, and author of The VR Book, from Morgan & Claypool Publishers, opened the Immersed conference by noting that attempts to create immersive fantasy experiences date back at least as far as the 19th Century. The IEEE standards body has been holding regular VR conferences since 1993.

What’s new right now is that true VR is suddenly becoming affordable. Several companies plan to offer full-fledged interactive VR equipment next year. The best-known one is Oculus. Founder Palmer Luckey raised over US$2 million on Kickstarter, to fund his Rift headset. Facebook bought the fledgling company two years later in 2014 for a cool US$2 billion.

Oculus aims to be the gold standard in VR. The Rift is expected to provide 1,080 x 1,200 low-latency OLED pixels for each eye, at a blistering 90Hz refresh rate, with headphones delivering binaural audio. It will be powered by a fairly beefy PC, with stated minimum specs that

THE STORY
- Consumer VR products will ship early in 2016, but demand will build slowly.
- Front-runners Oculus, HTC, and Sony, are joined by many smaller contenders.
- Games will be an early driver, but demos suggest many practical applications.
include: Intel Core i5-4590 CPU, 8GB of RAM, and an Nvidia GeForce GTX 970 or AMD Radeon R9 290 graphics card.

Oculus expects that by the time the Rift ships in Q1 2016, suitable PCs will be available at under US$1,000. The Rift itself will probably add another $350 to $450.

The final Rift design shown by Oculus at its press event this summer will be light enough to be donned “like a baseball cap,” according to CEO Brendan Iribe. A slider will adjust inter-pupillary distance, and the ‘facial interface’ will be removable for replacement or cleaning. A tracking system will translate the user’s head position into the virtual space.

“...Try as I might, I could not bring myself to step off the ‘edge,’ even though I knew I was standing safely in the middle of a carpeted conference room.”

The Rift’s one compromise is that it will ship with a wireless Xbox One gamepad, hardly ideal for complex VR interactions. Oculus has shown a much more sophisticated controller, combining a pistol-grip and plastic ring that surrounds the hand to track finger movements. It’s said to open up possibilities such as pointing or giving a thumbs-up. However, Oculus has not announced availability or pricing.

Oculus’ closest competition will come from smartphone maker HTC, whose Seattle development lab has formed a productive relationship with nearby Valve Software, operator of the Steam online games store, and creator of classic 3D games such as *Half-Life* and *Portal*.

Springing from this union is the Vive headset, “powered by SteamVR.” It has basic specs similar to those of the Rift: 1,080 x 1,200-pixel display for each eye, with 90 frames-per-second (fps) refresh rate. But it also has a unique advantage: it’s the only consumer VR system so far that lets users get up and walk around in the virtual world.

The trick lies in a pair of scanning lasers placed at opposite corners of the room (up to 15 feet square). Reflected laser light is captured by sensors in the headset, allowing the user’s movements to be transferred into the virtual world. Physical obstacles, such as walls, are also detected and appear in VR as a glowing grid if the user gets too close.

The lasers are passive, so they need no data connection, explains J.B. Mcree, Senior Manager, Product Marketing, for HTC. The headset connects to the PC via standard HDMI, for visuals, and USB, for tracking data.

In my brief trials, the system worked beautifully. *Tiltbrush*, published by Google, allowed me to paint in mid-air with coloured brushes and dazzling animated effects. Another demo put me on the deck of a sunken ship, with fish swimming around my head. But the best experience of all was a 10-minute sequence based on the Valve game *Portal*, in which I interacted with robots, and ultimately found myself in a vast futuristic factory space.

Toward the end, part of the virtual floor fell away, leaving me gazing down into a bottomless abyss. Try as I might, I could not bring myself to step off the ‘edge,’ even though I knew I was standing safely in the middle of a carpeted conference room.

The Vive Developer Edition ships with dual control sticks. They’re comfortable and powerful, incorporating small circular touchpads that can be used for things like menu selection.

Starbreeze AB, a game developer based in Sweden, is something of a dark horse in the VR race. At the E3 show this year, the company announced the purchase of French startup InfinitEye VR SAS, which had been working on an HMD design.

The StarVR headset offers a whopping 2,560 x 1,440 pixels to each eye, using Fresnel lenses to create a very wide field of view: 210 degrees horizontally and 130 vertically. Extended peripheral vision should increase the immersion factor, presuming image quality isn’t compromised. The prototype headset certainly looks elegant, with lightweight plastic bands wrapping around the user’s head.

Starbreeze lists Toshiba and Lionsgate as development partners. It has also promised that its Valhalla 3D software engine will fully support Valve’s SteamVR software framework. This should give Starbreeze access to the vast Steam marketplace. More importantly, it could help validate SteamVR as a multi-vendor standard.

Sony comes at VR from a different direction. Its PlayStation VR headset will be an add-on to the PlayStation 4 game console. That gives it less processing capability than the PCs that Oculus or Vive will use. However, the only obvious limitation seems to be resolution. Delivering 960 x 1,080 pixels to each eye, PlayStation VR offers a slightly grainier world than the Rift or Vive.
On the positive side, Sony has a perfect controller ready-made for VR: the PlayStation Move. In my brief test, the experience was still compelling. I was situated in the passenger’s seat of a moving car, shooting at pursuing motorcycles. One Move controller became the gun, the other let me pick up fresh magazines from the dashboard. Immersive, and fun.

The PlayStation VR demo also offered at least one major revelation. Looking to the side, I was struck by the sheer physical presence of the beefy driver next to me. Not merely an image on a screen: he was as big as I was, and just as solid. Clearly, character interactions are going to be very intense in VR.

Sony’s headset was by far the lightest and most comfortable of the ones I tried, likely because it was closer to being a final product. It showed the right features: light, adjustable forward-and-back to put just enough pressure on my face, without squashing my glasses against my eyeballs.

One other project deserves mention. Open Source Virtual Reality (OSVR) is an attempt to create a truly open VR platform, spanning both hardware specs and open-source software. Primary sponsors are PC peripherals maker Razer Inc. and Sensics Corporation, a Maryland-based designer of HMD hardware.

A prototype OSVR Hacker Development Kit was scheduled to be available this fall, and seems to have drawn some interest from game developers. But even if OSVR doesn’t yield leading products, it could be influential in defining VR standards.

A long way behind these products is another type of VR, which includes ‘360 video’ and ‘spherical’ video. These deliver a prerecorded moving image, in either 2D or 3D, that surrounds the user but offers minimal interaction. It can be viewed on a smartphone, allowing the user to pan around, but also on inexpensive stereoscopic headsets such as the Samsung Gear VR and Google Cardboard.

Content is much easier to produce than with fully interactive computer-generated VR, drawing the interest of both professional and amateur film and video producers. For example, DIRECTV in the U.S. has offered surround-video highlights of a boxing match, via a custom app. YouTube allows uploading of videos from cameras by Bublcam, Giroptic, Ricoh, Kodak, and others.

It’s debatable whether this type of experience is truly ‘Virtual Reality,’ but it is immersive, and it could end up introducing many consumers to the idea of wearing a headset.

8i, based in Wellington, New Zealand, is aiming somewhere between interactive VR and spherical video, with software that will convert “standard digital videos” into “vivid, volumetric 3D video.” The goal, says the company, is to create something better than a “flat sphere” of video, and more like a live-action 3D virtual space. Clearly, there’s a lot of room for experimentation.

THE VR RACE TO THE TOP
At this point, it’s hard to predict the winners in VR. Oculus was first to plant a flag in the turf, but Vive’s stand-up experience could end up stealing the limelight. Vive will also benefit greatly from access to Valve’s online Steam marketplace, with upwards of 125 million active users. Oculus is building its own VR-enabled social hub and store, but it’s going have a tough time catching up.

Sony should do well, in any case. It’s clearly still need to be addressed with VR, including motion sickness, nausea, fatigue, and even hygiene.
Ted Price, CEO of Insomniac Games, previewed a space-fighter game expressly designed for VR, set in the frozen wastes of Antarctica. Distribution of VR content by 2020: gaming (25%), social networking (11%), movies (11%), and TV (7%). Not surprisingly, the largest sales volume will come from inexpensive devices such as the Cardboard and Samsung GearVR. By 2020, Peddie expects interactive VR HMDs to account for perhaps half the volume of the lower-cost types.

Many developers will use spherical video to gain experience, then move on to more demanding projects. For example, Vitruvius VR in London, ON has done spherical video projects for the Ripley’s Aquarium in Toronto, and the Niagara Falls tourism office. Now, it’s working on a fully interactive game: MushroomBallVR, for the Oculus Rift.

Location-based experiences will also play a major role. At Immersed, Srinivas Krishna of AWE Company Ltd., spoke about creating an interactive experience at Toronto’s Old Fort York. It uses inexpensive headsets to overlay a virtual space on the full terrain of the real fort. At various points, visitors can see motion-captured VR re-creations of historical events, such as using cannons to repel an attacking ship.

Anna Sweet, Oculus’ Head of Developer Strategy, reported that there were “thousands of developers all over the world” working on Rift content. She also announced that Oculus itself will be investing “over $10 million” toward accelerating independent development. (The exact mechanism was not detailed.)

For its part, HTC has mentioned that it is working on partners such as Google, HBO and Lionsgate on the creation of “phenomenal Vive experiences.” It seems a safe bet that Valve will contribute something on the gaming side as well.

WHAT TO WATCH?
VR content is coming fast. At Immersed alone, there were numerous developers large and small. Canada, in particular, seems to be spawning surprising numbers of VR ventures.

Games will obviously be the strongest driver of early VR adopters. For example, at the Oculus event this summer, Hilmar Veigar Pétursson, CEO of Iceland-based CCP Games, showed off EVE Online, a space-fighter game expressly designed for VR. Ted Price, CEO of Insomniac Games, previewed Edge of Nowhere, a Lara Croft-ish action-adventure set in the frozen wastes of Antarctica.

Jon Peddie of Jon Peddie Research predicts the distribution of VR content by 2020: gaming (25%), live events (14%), sports (14%), e-sports (11%), social networking (11%), movies (11%), and TV (7%). Not surprisingly, the largest sales volume will come from inexpensive devices such as the Cardboard and Samsung GearVR. By 2020, Peddie expects interactive VR HMDs to account for perhaps half the volume of the lower-cost types.

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For its part, HTC has mentioned that it is working on partners such as Google, HBO and Lionsgate on the creation of “phenomenal Vive experiences.” It seems a safe bet that Valve will contribute something on the gaming side as well.

SCIENCE, NOT FICTION
Right now, Virtual Reality still has the air of science fiction about it. In three months’ time, it won’t seem fictional at all. Six months from now, we’ll all be sick of hearing about it. By next Christmas, it will be maturing into a bankable consumer market, spanning multiple products and services at a wide variety of price points.

The digital world hasn’t seen a land-rush frenzy like this since the early days of 8-bit computing. It’s partly fueled by the frustration of recent generations in having missed the original personal computing boom. And partly by the realization that there may not be another boom after this: many are calling VR “the last medium.” It’s certainly hard to imagine what might supersede it.

NextGen’s Jerald is quick to point out the challenges to VR adoption. Motion sickness and nausea have been a big concern, but are largely under control based on improved HMD responsiveness and smarter software design. Fatigue may still be a factor, as users spend longer periods of time waving hand-controllers in midair. Even hygiene has to be considered, as families share a single face-hugging headset. “We don’t know all the answers,” Jerald emphasizes.

Sony is taking a different approach to VR, offering its headset as an add-on to the PlayStation 4 game console, where it can work in sync with the PlayStation Move controller.

Marinkovic of AMD sees early VR breaking into “good, better, best” varieties. Good will be what people can see with something like Google Cardboard. Better will be Sony’s system, running on a game console. Best will be a PC-based setup, offering maximum resolution, interactivity and complexity.

“This is a once-in-a-lifetime opportunity,” Marinkovic sums up. He sees media having evolved smoothly from radio to TV to computers, and now finally to fully immersive VR. “We have the technology, and we’re bringing it to market. No serious company should have a roadmap that doesn’t have VR on it.”
ONE-ON-ONE WITH D&H CANADA: Poised for Success

BY CHRISTINE PERSAUD

THEY MIGHT JUST BE an industry anomaly. While sales numbers appear to be down in many CE categories, distributor D&H Canada reported seeing growth across the board for its fiscal first quarter of 2016, which commenced May 1. That includes key segments like computing and networking, consumer electronics, and gaming products. Overall, the distributor experienced 23% growth, which exceeded projections of about 18%.

In some cases, the surge is easily explained by shifts like Microsoft’s termination of service for the Server 2003 solutions, which helped drive server growth up a whopping 220%; or by the increasing need for security among small-to-medium businesses (SMBs) as a result of an onslaught of malicious malware. But General Manager Greg Tobin attributes D&H Canada’s favourable performance to a number of other factors, too. And suggests that successful customers are those who don’t get caught up in the often dismal numbers, but learn to get creative with their businesses and see beyond them.

SEEING THE OPPORTUNITIES, NOT THE NEGATIVITY

We tend to look at stats as a sort of barometer of what’s going on in the world, said Tobin in a private interview during the distributor’s annual Technology Trade Show in Mississauga, ON in mid-September. “[And] when we look at the economic news, it isn’t all rosy.”

In our industry, specifically, we look to numbers from research firms like NPD Canada. And while they reflect an accurate picture of the situation, we can’t help but feel defeated when we see that sales are down 1% for the month of June, then 2% for July. “You get so immersed in that part,” Tobin says, “that you don’t see the opportunities. And the resellers I see being very successful and growing don’t subscribe to the theory that they have to run their business upon those barometers.”

To illustrate his point, Tobin points to a monitor sitting on a table behind us in the boardroom of the Mississauga Convention Centre. Most research firms report that the monitor business is on the decline. But D&H Canada’s sales in the category were up more than 68% this year. Tobin believes it’s because some customers are finding new applications for them. In D&H Canada’s Brampton, ON head office, which the company moved into last year, there are about five common area monitors displaying data like company updates and employee information. Another business might use one or two to display advertising. And maybe some resellers discover that everyone should have two monitors on their desks, or even three.

“I can talk to one reseller and they say ‘it’s a tough market out there,’ and then I talk to another, and they say it’s so busy, they don’t have the time to listen to [all the negative] news. The challenge is we get used to doing the same thing over and over, and don’t look for new applications to have the product.”

That goes beyond monitors to include categories like security products, sensors, networking gear – the list goes on.

“[There will be] areas for growth for people who are a little bit more open-minded about how the world changes,” says Tobin. “And maybe we have to lead by example.”

Indeed, D&H aims to do just that, and its numbers, as noted above, suggest that the company is on the right path.

Along with the aforementioned Microsoft move away from Server 2003 solutions this July, the distributor encouraged its resellers to also upsell more advanced, turn-key solutions that encompass storage, networking, security and back-office elements to go along with it.

TENURE, CUSTOMER FOCUS

Tobin credits the long tenure of D&H’s sales staff - an average of about 9.4 years - for helping contribute to the company’s continued success. By comparison, the industry churn rate, Tobin suggests, is close to 24%. “That means every 36 months, you’re turning over your sales team. So what happens with your intellectual knowledge and training?”

Rob Eby, Vice President of Purchasing for D&H Distributing in Harrisburg, PA, adds that D&H’s salespeople aren’t just salespeople, but consultants. A reseller may call in, he suggests, and ask for a 24” monitor. He won’t say, “I need a 24” BenQ monitor,” but rather rely on the salesperson for that recommendation. “It makes a big difference when there’s that relationship,” he notes. “It really creates a trust factor.”

Additionally, Tobin says that as long as the three key players in every transaction – the customer, the vendor, and the distributor – work with one another to grow the relationship, it’s “a big win.”

Adds Eby: “We’re constantly trying to find ways that we can support and keep our customers healthy. Because if our customers are healthy, we’re going to get more business from them.” The same goes for the vendors.
For instance, D&H does not charge customers to do a credit application, which some companies do. And at the height of the economic crisis in 2008-09, D&H created its Business Assurance program, working with vendor partners to help customers that were losing credit insurance as a result of the dismal economic situation. (D&H Canada launched the program in the Fall of 2009.) “We worked with our vendors...to underwrite that insurance so we could keep our customers in business rather than just saying ‘sorry, I can’t support your credit line anymore,’” says Eby. “That creates a lot of loyalty there.”

HOT CATEGORIES
It was clear from this year’s Technology Trade Show, which took place at the Mississauga Convention Centre, that mobility and security were top themes.

The purpose of the show, now in its eighth year, is to introduce resellers to the latest products from D&H vendors, facilitate orders and special show floor-only deals, and educate attendees through a series of seminars. About 50 vendors were exhibiting, including Belkin, Cyber Acoustics, D-Link, Epson, Garmin, Lenovo, Logitech, Netgear, Sophos, SonicWALL, Targus, Toshiba, and Western Digital, among others. About 400 guests attend each year.

Four 45-minute educational sessions were held in the early afternoon by Microsoft, Cisco, HP, and Asus, on topics ranging from Windows 10, to security, and gaming.

“Mobility is driving a lot of growth,” confirms Tobin. “There’s been a bit with tablets, but definitely notebooks are driving the lion’s share in that space.” In the U.S., adds Eby, the shift to the Google concept (with Chromebooks) by many schools is helping drive the category.

“Because so much stuff is living in the cloud now,” he says, “they had to update their infrastructure.”

And that includes networking gear, a category that Tobin enthuses is showing about 20% growth in Canada, along with security.

The increasing sophistication of malware is making security a concern for all businesses, particularly smaller SMBs that may have never have had to deal with such concerns at this level. And it requires new investments toward protecting company data. “We have to spend a lot of money that really isn’t adding [anything] tangible,” says Tobin. “But it’s protecting us. And that’s the new-age economy.”

Conversely, storage is also an area of growth, says Tobin. Even though much of our content is being stored in the cloud, the aforementioned security concerns mean that consumers and businesses still value being able to store content locally.

ONWARD AND UPWARD
There’s a natural ebb and flow in the industry. In just the past decade, we’ve witnessed the industry’s dramatic shift from digital cameras, to MP3 players, flat panel TVs, and smartphones as the CE product du jour. In D&H’s case, it was the desktop a few years ago, along with the XP refresh. This year, it’s networking and storage equipment, plus the Windows 10 upgrade. What about going forward into 2016?

When we spoke at last year’s event, Tobin was particularly excited about the potential for wearables, and is still just as excited now, noting that the category continues to grow as products evolve. While Eby calls the Fitbit the “Kleenex of the category,” he says D&H is also doing quite well with other wearables, including Striiv, Popago, Runtastic, and Martian for those who desire something that looks like an actual wristwatch. Eby anticipates a big holiday season this year for that category.

Conversely, the do-it-yourself (DIY) automation sector has been moving a bit more slowly than D&H had hoped. But it’s coming along, says Tobin. Eby admits that one of the difficulties with the category is the lack of interoperability among devices and apps. But there are interesting DIY devices in the company’s roster that are gaining attention, like the Kevo Smart Lock, which includes Bluetooth-enabled key fobs that can be used to unlock doors from a smartphone. And Eby suggests that the Amazon Echo cloud-based, voice-operated speaker, currently available in the U.S., is just the kind of easy-to-use home automation device that will help bring more interest to the DIY category.

D&H’s exclusive arrangement with Texas Instruments to provide calculators to all school boards across Canada is also a very stable business. “It’s not the calculator that you and I used to know,” assures Tobin. “It’s quite a different experience altogether.” And there will always be a need for a dedicated calculator, since most schools do not allow students to use any devices with Bluetooth during testing.

Over the next 12-24 months, Tobin predicts that infrastructure, including storage and networking, will be key.

“We’re now providers of the brains of the house,” he says. “So it’s kind of evolving.

“We really believe what it comes down to,” Tobin sums up, referring to a reseller’s potential to thrive in these, or other, categories, in trying times, “is looking for the opportunities, and being a bit more entrepreneurial in spirit.”

In other words, numbers do paint the picture, rosy or not. But it’s up to every business to figure out how to stroke the brush outside the lines in order to improve the final outcome. wh
Reaction to last month’s lead in this column, entitled A Look at the Loonie and Retailing, was a little surprising. While we received plenty of feedback, no one argued that the notion a lower loonie could be good for Canadian retailing was way off base.

NPD Canada and WiFi HiFi jointly hosted a breakfast presentation in early October entitled Facing the Slow-Growth Future: Strategies for Retail Success. The keynote speaker was Stephen Baker, Vice President of Industry Analysis at The NPD Group, who flew in from Washington for the event. Noteworthy was that Baker’s illustrated talk contained no references to the Canadian-American exchange rate as a factor affecting sluggish CE sales in numerous categories.

Even more surprising was that none of the many attendees who posed questions of Baker after his talk raised the exchange rate issue. It would seem that the lowered loonie is not a pressing issue for Canadians in the CE trade.

And it appears it shouldn’t be. As we quoted last month from a recent paper co-authored by Professor Beverly Lapham of Queen’s University Economics Department in Kingston, ON, “a real Canadian dollar appreciation increases cross-border shopping by Canadians, resulting in a negative demand shock for Canadian retailers…”

The Motley Fool, the U.S.-based multimedia financial-services company known for early tips to buy such shares of Amazon, AOL, eBay, PayPal, and Starbucks, ran a recent article Why a Weak Loonie is Great for Canada. After noting that the loonie reached its lowest point in the past decade at US$0.74 just prior to the article’s publication, The Motley Fool added that, “The value of exports from Canada’s manufacturing sector, while remaining flat month-over-month, has risen by an impressive 16 per cent year-over-year.

“Perhaps,” it continues, “that a weak loonie is indeed boosting exports of manufactured goods, including electronics and motor vehicles.”

The Motley Fool agrees with the general view that weak oil prices will keep the loonie down.

“While this is perceived to be a negative by some analysts,” it adds, “it will be a positive catalyst for Canada’s manufacturing, agricultural, and forestry sectors. This will act as a tailwind for the Canadian economy, helping to pull it out of recession.” For what it’s worth, at this writing, two days after the general election, the loonie was up to US$0.77.

Canadian retail has been performing strongly for months. Sales were up significantly in Q2. Statistics Canada reported sales increases of almost 8% for housewares and lawn and garden. Yet retail sales in the furniture, home furnishings, and electronics category were only up 0.6%. How come?

According to Mark Haar, Director of Consumer Electronics at NPD Canada, some TVs were up to 35% higher in price in Canada than the same model in the U.S. Last year, the difference was only 15%, and the increase differential (measured in Canadian versus U.S. dollars) was largely due to the exchange rate.

But Haar notes that slow TV sales, down 12% to date, cannot be pinned solely on the exchange rate. “There are so many other factors,” he says. For example, he notes, “There are always shifts in screen sizes.” Canadian TV sales have been soft for years, he notes.

The market has been supersaturated with video devices, Haar observes. The average Canadian consumer has “at least five different devices with overlapping function.”

An attitude of “good enough is good enough” pervades many viewers these days, in Haar’s opinion, “but a significant number wants higher quality.” Yet another factor affecting the economy in general, and retailing in particular, is consumer confidence, and related willingness to buy. “It hasn’t recovered since 2008-2009,” he says.

Maybe it hasn’t recovered entirely, but consumer confidence is apparently in the eye of the beholder. On consecutive days in October, contradictory reports were published.

“Canadian consumer confidence extended gains, rising to its highest in 12 weeks,” wrote Theophilos Argitis for Bloomberg on October 5, “amid an improving outlook for the nation’s economy. The Bloomberg Nanos Confidence Index…rose to 55.6 for the week ended October 2, the highest reading since July 10. The index had been hovering at about the lowest since 2013 before rebounding.”

The next day, The Conference Board of Canada’s Index of Consumer Confidence was stating that it had fallen 1.4 points in September to 90.6. This marks the third consecutive decline for the index, which is now at its lowest point this year.

So, who are you going to believe? Well, like the economy and exchange rates, consumer confidence is something no one retailer or even one industry can change. Or isn’t it?

Replace ‘consumer’ with ‘customer,’ and maybe the problem can be broken into bite-sized bits. Determine what business you are in, advises Florida-based retail expert and speaking professional Tom Shay. He gives the example of mattress retailers, who are not selling bedding. They are selling “good sleep and great sex.”

Shay cites a mammoth survey of 20,000 people, by Dr. Richard Feinberg of Purdue University, regarding their retail shopping experiences and preferences. Feinberg found that the top five concerns for customer satisfaction were: having the item(s) or performing the services that the customer needs; saving the customer time; selling value to the customer; producing the product(s) or service(s) in an attractive manner; and having someone qualified to assist the customer.

Price is noticeably absent from the list. Addressing those top five, rather than price might greatly increase consumer confidence, at least in the microenvironment of an individual store. wh
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Powered by music
MODERN SOUNDS SETS UP SHOP IN STITTSVILLE, LAUNCHES E-TAILING SITE FOR DIGITAL AUDIO GEAR

August saw the launch of a new online high-fidelity audio shop that has significant bricks-and-mortar backup. Modern Sounds is the brainchild of Roger Delarosbil and Rick Hopkins.

Delarosbil is familiar to Canada’s consumer electronics retailing community as the President of Signature Audio Video, an independent specialty store for two decades, in the Ottawa suburb of Stittsville. He is also the President of and partner in Modern Sounds. Rick Hopkins, Vice President of Modern Sounds, has a background in stage design for acts like The Rolling Stones, U2, and Rush.

Signature’s roster of 14 staff it. In August, the Website, Modernsounds.com, came online.

The Website categorizes products based on how and where a user might prefer to listen, like “Your Music at Home,” “Your Music at Work,” “Your Music On the Move,” and “Your Music in High Fidelity.”

Among the brands offered are AudioQuest, B&O Play, Meridian, Naim, Paradigm Shift, Sennheiser, and Sonos. Delarosbil expects that Modern Sounds was also among the first in Canada to present Devialet’s new Phantom powered speakers, which start at $2,600.

More exotic and expensive gear, such as speakers at $30,000 a pair, can be heard offsite. “Rick has a special studio for such auditions.”

Modern Sounds offers free shipping and free returns. “People can buy it, listen to it at home, and if they don’t like it, send it back,” says Delarosbil confidently. Exchanges or refunds are offered.

Web sales, which Delarosbil says have been growing through September, will initially be confined to Canada, but the pair expect to expand throughout North America within a couple of years.

A greater bricks-and-mortar presence of Modern Sounds may emerge next spring as well. “We will consider opening boutiques in larger centres like Toronto, Montreal, and others.” The 500-square-foot boutiques, Delarosbil states, would be corporately owned and operated, and like Signature, affiliates of Audio Video Unlimited and members of Power Audio Video Group.

IKEA CANADA’S fourth “Pick-Up and Order Point” will open next spring in a former Future Shop about 50 kilometres east of Toronto in Whitby, ON. A total of 10 such shops are planned to augment the retailer’s 12 stores across the country. The first two announced in May (Quebec City and London, ON) are already under construction and should open before the holiday selling season. Each is about 20,000 square feet in size. The third, in St. Catherines, ON, was announced in August. Whitby’s outlet will employ between 30 and 35 people. In addition to picking up furnishings ordered online, regional shoppers can have bulky and/or heavy items delivered locally for much less. Other services include merchandise assembly, returns, and exchanges. A limited selection of products to buy and take away will be available.

Its press release claiming to challenge Amazon may be a little overblown, but SpotsHub does indeed offer free same-day delivery...in the Vancouver area. The online retailer launched on September 15, and is based in the eastern Vancouver suburb of Coquitlam. Thus far, its offerings are confined to gifts and toys, with no electronics on tap among the 500 product lines. It claims to have 12,000 items on hand at its 15,000-square-foot warehouse. The delivery fleet consists of 20 hybrid gasoline-electric vehicles. Orders placed at www.spotshub.com before 2 p.m. (PST) will be delivered free by 9 p.m. the same day within BC’s Lower Mainland. As an incentive to try it, SpotsHub is offering a free, one-year membership to its first 5,000 customers.
SAMSUNG’S SOLVE FOR TOMORROW EDUCATION CHALLENGE AWARDS $500,000 IN CLASSROOM TECHNOLOGY

Samsung Electronics Canada Inc. launched the Samsung Solve for Tomorrow Challenge on September 24, which it calls “a national educational challenge designed to inspire Canadian students.” The goal is to help Canadian students “reach their full potential,” particularly in STEM (Science, Technology, Engineering, and Math) subjects.

“Together with our partners,” says Mark Childs, Chief Brand Officer at Samsung Electronics Canada, “Samsung is committed to continue to support public education in Canada through classroom technology, research and support.”

Students in grades 6 to 12 are encouraged to apply these STEM disciplines towards the betterment of their communities. They are asked to identify an existing challenge or issue they see in their community, and use STEM to solve it. Schools selected as finalists will receive a share of $500,000 in Samsung classroom technology.

All Canadian public schools and students in these grades can enter the Solve for Tomorrow Challenge at solvefortomorrow.ca. The first phase of the challenge, to document a community issue and its STEM-based solution, closes on November 30.

In December, 55 schools will be chosen for the next phase, to implement their solutions, and document the process using Samsung recording technology. One winner from each province and territory will receive $20,000 in classroom technology.

Those winners will compete in a final phase next February. Two grand prizes of $50,000 in classroom technology will be awarded. Another perk of the grand prize is a visit to their school lab next spring by Mitch Moffit and Greg Brown, stars of the YouTube program AsapSCIENCE.

Moffit and Brown are among the partners of the Solve for Tomorrow Challenge. They began AsapSCIENCE as a community for people to learn and be entertained by and about science. To initiate the challenge, Samsung will host a live meet-and-greet with the two.

“We love STEM,” say Moffit and Brown, “and our goal with AsapSCIENCE was always to help others see how approachable, exciting and fun these topics can actually be.”

The winning projects will be featured in an AsapTHOUGHT video. Moffit and Brown will also host what is called “a special and unique STEM lab experience at the winning schools.”

Other partners are The Learning Partnership, a national charitable organization dedicated to advancing public education in Canada, and Let’s Talk Science, a charitable youth development organization creating and delivering free STEM learning programs and services to educators. wh

NEWEGG OPENS NEW BC WAREHOUSE, MAKES OVER MOBILE SITE

Electronics e-tailer Newegg.com Inc. has opened its second Canadian warehouse, in Richmond, BC. The hub currently uses 41,000 square feet, but a total of 64,000 are available.

Lower shipping costs and faster delivery are promised for western Canadian customers.

“We’re aggressively expanding our presence to provide them with the best possible Newegg experience,” says James Wu, COO.

BC, Alberta, Manitoba, Saskatchewan, and the Yukon and Northwest Territories will be served from the new facility. A day or two will be lopped off for deliveries.

The new BC warehouse opened seven years after Newegg entered Canada. Its other Canadian hub is in Richmond Hill, just north of Toronto. In addition to its Canadian locations, Newegg has five warehouses in the U.S., and nine in China.

The e-tailer also launched a revamped mobile portal in mid-October specifically designed to make sales via smartphones easier and faster. And it introduced new Android and iOS apps.

A new homepage can be personalized with shortcuts to specific categories or products and alert shoppers of price changes. A barcode scanner can compare Newegg prices to those in bricks-and-mortar stores.

Faster mobile checkout is touted. Discounted goods can be put in the cart without promo codes. Changing a cart’s contents is said to be easier and earlier, with CSC or CVV2 security codes, for example, displayed at the first window.

Guest checkouts on mobile are now permitted.

Two months before the new warehouse and mobile platform were announced, Newegg expanded its Newegg.ca online marketplace by opening it up to retailers from other countries. Since it was launched in January 2014, over 200 Canadian companies have elected to offer their goods and services on Newegg.ca.

Based in The City of Industry near Los Angeles, Newegg is rated 17th in Internet Retailer’s 2015 Top 500 Guide. The company’s online revenue for 2014 was US$2.83 billion. wh
On October 9, 55 converted Future Shop stores held grand opening-cum-anniversary sales as Best Buy locations to mark the conversions.

Best Buy Canada nixed the Future Shop banner on March 28, closing all 131 stores. The intent was, and remains, to convert 65 of them into Best Buys. After a week’s hiatus, all 65 former Future Shops reopened as Best Buys, albeit in their old livery.

Now the great majority have been repainted, remodeled, rebranded, and reopened. The remaining stores that may have been slightly delayed due to bylaw and permitting issues, according to the retailer’s Corporate Communications Manager, Elliott Chun, will soon reopen as refreshed Best Buy stores.

Among the latest to reopen were ex-Future Shops in Cornwall and Peterborough, both in southern Ontario. The rebranding was marked with special three-day sales, including door prizes, and a $500 gift card awarded by random selection among all shoppers who submitted a ballot, regardless of whether they made a purchase or not. All stores, rebranded or not, featured a concurrent week-long annual anniversary sale.

Meanwhile, Best Buy Canada has continued Future Shop’s donations of technology to Canadian schools, rebranding it as Best Buy’s Tech Lab grant program. Any Canadian public elementary or secondary public school can request up to $20,000 to buy new technology.

Two categories of grants are available. General School Tech Grants can improve or integrate technology in their classrooms to advance student learning. New technologies for libraries, special needs classrooms, literacy programs, and so forth are eligible. STEM (Science, Technology, Engineering, and Math) School Tech Grants can enhance robotics clubs, math programs, coding, and digital media courses.

On September 22, stand-up comic, actor, ex-school teacher, and Scarborough native Gerry Dee gave the kids of Guildwood Junior Public School in Toronto’s east end a pep talk about keeping up with technology and learning, and presented them with Acer notebooks and tablets. General Manager Sanjeev Chandna of the Best Buy store near Scarborough Town Centre, made the presentation, along with Best Buy Canada’s Operations Product Process Manager Ian Evans. Cases and software were also supplied, and Best Buy Geek Squad members got everything up and running.

“Technology has come so far since I was a kid,” said Dee, who taught school for a decade under his given name Gerard Donoghue, “and it’s so important for the kids to know how to use it, to have that advantage when they get older.”

The digital age is moving so fast,” adds Chun, “that there’s sometimes a gap between where the digital age of technology is versus where school learning is, and we want to help bridge that gap.”

Since 2008, Best Buy and Future Shop programs have given over $2 million in equipment and money to Canadian schools. wh

WALMART CANADA has expanded its Grab & Go Locker network to include six 7-Eleven locations within the Greater Toronto Area (GTA). Web customers can have their products shipped there for free, then pick them up at any time, 24/7, within seven days. Once the item is in the locker, the shopper will receive an e-mail containing a six-digit PIN code that can open it. Walmart currently has 45 Grab & Go Lockers in stores across the GTA, as well as at its home office and in Kapuskasing, ON. But this marks the first time that they will be available through another retailer. Walmart Canada and 7-Eleven Canada Inc. have agreed to a six-month pilot of the project to evaluate customer response and usage.

BSH HOME APPLIANCES LTD., which represents brands including Bosch, Thermador, and Gaggenau, toured across Ontario and Quebec with a number of trade shows, events, and in retail outlets to showcase how virtual reality can be used in cooking demos. The idea is that the VR demos steer customers toward BSH’s Luxe Appliance Studio showrooms where they can see the products in use first-hand, then return to the retailer for purchase. Users get to virtually sit at the table during a number of cooking demos delivered in three two-minute segments, with chefs Daren Bergeron and Nico Lacino. Products featured include the Thermador Freedom gas induction cooktop, the Pro Grand steam range with grill, and the Professional series steam oven. Singer and producer W.illi.am designed and produced the VR content using 12 GoPro cameras, in spherical style with some 3D elements. The demo uses Samsung GearVR headsets.

Patrick Henri, Regional Marketing Manager at BSH Home Appliances Ltd., dons the Samsung GearVR headset at the event. (Photo: Frank Lenk)
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**BINGE-WATCHING.** We have all done it. And for some, it’s the only way we consume TV.

The TV landscape has been evolving dramatically, fuelled in large part by online streaming services like Netflix, shomi and CraveTV. Smart TVs, and streaming devices like Roku, Apple TV, and Google Chromecast, all make it super-easy to access great programming this way. And with more and more 4K content coming through services like Netflix and Shomi and devices like the Roku 4 and Amazon Fire TV, the deal has gotten even sweeter.

The concept is simple: pay a low monthly subscription fee, then use your Internet connection and a source device to “binge” watch a season of a show – maybe even the entire series – in rapid succession.

There’s no tried and true definition of what constitutes a “binge” watch, though it should require that you watch at least three episodes in a row. At the very least, it means watching an entire season in a far quicker manner than you would through network TV’s antiquated schedule. And why wouldn’t you want to? Who, after all, could even fathom waiting an entire week to catch up with the next hour in the storyline, or learn the outcome of the previous episode’s cliffhanger? And what better way to spend a cold and rainy Sunday at home?

It helps that there’s a vast amount of wonderful television content available and ripe for binge-watching. We’ve boiled it down to 10 great shows, plus a few honourable mentions, and tell you how you can binge-watch them in Canada.* (Don’t worry, no spoiler alerts!)

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**1. Orphan Black**

*Original network:* BBC America (airing on Space, CTV in Canada)

*How to binge watch:* CraveTV

*Number of seasons available:* 2

*What we love about it:* Saskatchewan-born actress Tatiana Maslany manages to portray several clones with such finesse and nuance in movements and expressions that you almost believe you’re actually watching different actors playing each character. The plot is continually riveting, keeping you at the edge of your seat the whole way through.

*Interesting facts:* The show is filmed in Canada with an entirely Canadian cast. While actor Jordan Gavaris (who plays Felix) is originally from Brampton, ON, his fake British accent is so convincing that producers reportedly thought he was faking his normal voice.

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**2. Mad Men**

*Original network:* AMC

*How to binge watch:* Netflix

*Number of seasons available:* 7

*What we love about it:* Dapper men in suits and fedoras navigating the exciting world of NYC advertising in the ‘60s when the industry was at the top of its game. Impeccably-coiffed women dressed to the nines. A full bar in every office, and a drink poured and cigarette smoked with every business conversation. And, of course, there’s Don Draper. What is there not to love about this show?

*Interesting facts:* You might be surprised to know that the writing staff was not made up predominantly of men - by the third season, a reported seven of the show’s nine writers were actually women ranging from their 20s to their 50s.
3

**The Walking Dead**

*Original network:* AMC  
*How to binge watch:* Netflix

**Number of seasons available:** 5

**What we love about it:** It really isn’t about zombies. The walking dead are merely background noise to the larger story, which examines the human survival instinct and the terrifying moral dilemmas you could face in life-or-death situations. What kind of people would actually survive in an apocalyptic world? How would it change you? And is it really the walking dead you have to worry about, or the other survivors?

**Interesting facts:** The character of Daryl (Norman Reedus) is one of a few who doesn’t exist in the comic books on which the show is based. Yet he’s become one of the most popular characters, even spawning a line of fan T-shirts and Web memes warning creators: “If Daryl dies, we riot.”

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4

**The Blacklist**

*Original network:* NBC (airing on Global in Canada)  
*How to binge watch:* Shomi

**Number of seasons available:** 2

**What we love about it:** Veteran actor James Spader, starring as a career criminal mastermind known as the “concierge of crime,” is enough to draw you in. But watching the story unfold as he turns himself in to the FBI to rat out some of the most sought-after criminals adds an intriguing dimension. Why does he only want to deal with one particular agent, Elizabeth Keen (Megan Boone)? What’s the mystery behind their relationship? And is he genuinely looking to turn over a new leaf and bring justice, or does he have ulterior motives? Each episode keeps you guessing.

**Interesting facts:** In 2014, Netflix paid a whopping US$2 million per episode for exclusive streaming rights to the show in the U.S. But that agreement did not extend to Canada. This is also only one of two shows on the list that didn’t originate on a specialty TV network.

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5

**Game of Thrones**

*Original network:* HBO  
*How to binge watch:* HBO Canada On Demand

**Number of seasons available:** 5

**What we love about it:** When it comes to water-cooler conversation, this show takes the cake. Chances are you’ve been unable to avoid at least some spoilers by now. But with all the violence, gratuitous sex, gory deaths, and stunning costumes and marvellous visual effects that beg for high-definition viewing on the big screen, you probably won’t care once you delve into the fantasy storyline.

**Interesting facts:** The show holds the record for the most Emmy wins in a single year, snagging 12 of its 24 nominations, including *Outstanding Drama Series*, in 2015. To date, GoT has racked up a total of 26 Emmys, among many other awards.
6

**Entourage**

*Original network:* HBO  
*How to binge watch:* CraveTV  

*Number of seasons available:* 8

*What we love about it:* Live vicariously through this youthful group of 20-somethings who suddenly find themselves immersed in the world of Hollywood when one of them becomes a big-time actor, and brings his buddies along for the ride. Cameos abound, everything is in excess, and you can’t help but hate to love manic agent Ari Gold (Jeremy Piven). Don’t forget to top off the complete series with the just-released movie.

*Interesting facts:* The show is loosely based on the life of executive producer Mark Wahlberg and his rise to fame. Wahlberg has often made appearances on the show as himself.

7

**Breaking Bad**

*Original network:* AMC  
*How to binge watch:* Netflix  

*Number of seasons available:* 5

*What we love about it:* It’s just. That. Good. The story revolves around anti-hero Walter White (Bryan Cranston) who, upon receiving a terminal cancer diagnosis, decides to turn to drug-dealing to ensure his family is taken care of after his demise. But his true downward spiral within the dark underground drug world leaves viewers tormented. Love him? Hate him? Pity him? Fear him? A fabulous supporting cast and compelling script make every scene a nailbiter.

*Interesting facts:* There are several clever crossovers between this show and its spin-off *Better Call Saul*, which centres around the scene-stealing, shady lawyer character Saul Goodman (Bob Odenkirk). And wonder what the infamous “Blue Sky” meth from the show was actually made of? Blue rock candy, crushed up to look like the drug.

8

**Suits**

*Original network:* USA (airing on Bravo in Canada)  
*How to binge watch:* Netflix  

*Number of seasons available:* 4

*What we love about it:* Mike Ross (Patrick J. Adams) isn’t really a Harvard-educated lawyer. But he fraudulently poses as one in this show. And his massive lie continues to dig him deeper into a hole as he navigates through major cases in a powerful Manhattan law firm. Donna (Sarah Rafferty) is the legal secretary any lawyer would kill to have, and Louis Litt (Rick Hoffman) the partner any businessperson would loathe. But both characters offer hilarious comic relief throughout.

*Interesting facts:* Adams is an avid photographer in real life, and reportedly owns 25 cameras. Many of the framed photos displayed in his office on the show are of his own work. You may recognize the locations and venues featured in the program: it is filmed in downtown Toronto.
BINGE-WATCHING

House of Cards

Original network: Netflix original series (based on a BBC series)
How to binge watch: Netflix
Number of seasons available: 3
What we love about it: Watching an emotionless, narcissistic couple manipulate, blackmail, threaten, and worm their way to the White House, knocking down anyone in their paths, is both unsettling and fascinating. And Kevin Spacey and Robin Wright are truly believable as the flawed political power couple of Frank and Claire Underwood.
Interesting facts: Perhaps a rarity in TV land, every major character cast on the show was the first choice for the role, confirms director and producer David Fincher.

Sons of Anarchy

Original network: FX
How to binge watch: Shomi
Number of seasons available: 7
What we love about it: Extremely violent, often teetering on the edge of disturbing, this show isn’t for weak stomachs. Nor is it the type of show you even want to consider the kids accidentally walking in on while you’re watching. But you can’t help but feel intense levels of varying emotions for every character, right through to the end.
Interesting facts: Show creator Kurt Sutter is married to Katey Sagal in real life, who plays the universally-hated but convincingly-portrayed character of Gemma Teller. A spin-off based on the Mayan Motorcycle Club is reportedly in the works.

Black Mirror

(BBC, Shomi)
Thoroughly disconcerting, thought-provoking, and original, you might find this show a bit heavy to binge. But it’s worth poring through every unique episode, each of which showcases a new kind of horror fuelled by our modern-day digital world.

Silicon Valley

(HBO, HBO Canada On Demand)
It’s the perfect satirical show for tech nerds. Complete with geeky, reclusive developers, greedy CEOs, quirky VCs, and lawsuits galore, it mocks every stereotype there is about the California tech hub. Those who don’t work in the CE industry won’t get some of the more subtle jokes, but you’ll be laughing hysterically. Keep an eye out for some familiar events that are central to the storylines, like TechCrunch Disrupt and CES.

Ray Donovan

(Showtime, CraveTV)
Liev Schreiber plays a “fixer” who seems to need some serious fixing in his own life; and Jon Voight perfectly captures the essence of the dirtbag dad. It’ll have you cringing the whole way through, for more reasons than one.

American Horror Story

(FX, Shomi, Netflix)
Many of the actors return each season. But every one stands on its own with different characters and a distinct storyline, each just as horrifying as the first. Don’t watch this one if you’ll be sleeping alone!

Key & Peele

(Comedy Central, CraveTV)
Looking for some lighter fare? You can blaze through an entire season of this hilarious sketch comedy show featuring the side-splitting duo, Keegan-Michael Key and Jordan Peele, best know from their time on MadTV. Watch for popular recurring characters like Peele as President Obama and Key as his expressive “anger translator” Luther.

* Full seasons of some shows may also be available via digital download sites like iTunes, or on demand via a local TV provider. Check your listings.
WHO’S DOING WHAT?

- **Klipsch Audio**, distributed in Canada by **Gentec International**, is continuing its partnership with MLSE and the Toronto Maple Leafs as the official headphones and commercial speaker for this upcoming 2015/2016 season. Klipsch is the sponsor of the pre-game warm up at all Maple Leafs regular season home games. In-arena promotions will provide fans with the opportunity to win prizes in nightly giveaways facilitated through Twitter and Instagram. Klipsch is also the official headphones and commercial speakers of MLSE’s Toronto Raptors, and the official headphones and speakers of Live Nation Canada, the Molson Canadian Amphitheatre, and Air Canada Centre.

- **Microcel** is distributing two new lines: the WobbleWorks 3Doodler 3D Printing Pen, and the ShotTracker basketball training wearable. Using the 3Doodler, you can create variety of 3D objects. The pen will sell for $130. Wearing the ShotTracker, basketball players will get real-time statistics and shot charts to learn strengths and weaknesses. It tracks shot attempts and counts baskets and misses. It can be worn in the included wristband, or shooting sleeve, while a net sensor attaches to the net. It sells for $180.

- **Bryston** is now distributing loudspeaker stands from Richmond Hill, ON-based **Target Audio Products** through its domestic and international sales channel. Target stands are heavy, made of steel, and can be filled with sand or other dry fill for even more mass. Each series is available in 20, 24, and 28” heights.

- **Dell Inc.** bought data storage giant **EMC Corporation** for US$67 billion. This is over two-and-a-half times the value of the former largest tech sector deal; Hewlett Packard paid US$25 billion for Compaq in 2001. Michael Dell, Dell’s founder, will become Chairman and CEO of the merged businesses. Dell went private in 2013, while EMC is a publicly traded company. EMC owns the majority interest in VMware, a virtualization software company.

- **Dyson** acquired **Sakti3**, a solid-state battery firm based in Ann Arbor, MI, for a reported US$90 million. Sakti3’s prototype solid-state battery cells have a high energy density, and have the potential to surpass the density of today’s lithium-ion batteries. They are also, claims Dyson, smaller, safer, more reliable, and longer-lasting. In addition to using the batteries in its own products and building a battery production plant, it’s possible Dyson might license the technology for products like electric vehicles. Sakti has, in the past, claimed that its batteries were almost twice as efficient as Tesla’s.

- **General Electric** has sold yet more of its financial business to **Wells Fargo**. The latest deal between the two is for three units: commercial lending, commercial leasing, and vendor financing. Wells Fargo gets US$32 billion of GE Capital’s loans and leases. The deal is expected to be completed early next year, and enable GE Capital to return about US$4.2 billion to its parent company. About 3,000 employees are affected. The companies stated they would be transferred to Wells Fargo, but there is as yet no word on layoffs. About 90% of the business transacted by these units is in the U.S. and Canada. With this deal, Wells Fargo’s assets will swell to over US$1.76 trillion. It is currently America’s fourth largest bank, behind Citigroup with US$1.83 trillion in assets.

- **The Sears Canada** credit card will become part of Scotiabank’s portfolio. **Scotiabank** has taken over it and all other Canadian credit facilities of JPMorgan Chase. No financial details have been released.

- **Brightstar Corp.**, a mobile products, services and technology organization, has announced the acquisition of Ontario-based **WirelessWorks**, a specialized consulting and solutions provider for mobile network operators and device manufacturers. Brightstar, a subsidiary of **SoftBank Group Corp.**, currently offers device protection solutions in Canada. Mike Hortie, former CEO of WirelessWorks, is now President of Brightstar Canada. WirelessWorks will retain all employees, and continue operating from its headquarters in Markham, ON. The company will be consolidated into Brightstar’s U.S. & Canada region as Brightstar Canada. (905) 944-9999

WHO WENT WHERE?

- **Staub Electronics** has appointed **Sean McGuigan** as CI Support Specialist. He will work alongside the Service and Support team to assist customers with their CI technical needs, and help facilitate RMA and warranty-related requests. McGuigan has over 10 years of experience in the industry, nine spent as a systems integrator for Best Buy Canada. smcguigan@staub.ca, (604) 270-7316, ext. 203

- **James A. Bell**, former CFO and corporate president of The Boeing Company, has been elected to Apple’s board of directors. He has more than four decades of experience in finance, strategic planning, and leadership, including 38 years with Boeing. He was interim CEO of The Boeing Company in 2005.

- **Evolution Home Entertainment Corp.** has appointed **Bob McNeil** of McNeil Marketing, Inc. as Sales Representative for the province of BC, representing all Evolution brands with the exception of Savant. mcneilmarketing@shaw.ca (604) 644-0001
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- DTS:X ready
- 7 HDMI inputs and 3 HDMI outputs
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- Arcam’s full Dirac Live room EQ

SR250
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- HDMI inputs and 3 HDMI outputs
- 4K 3D HDMI 2.0a with HDCP 2.2
- Arcam’s full Dirac Live room EQ