It is hard to imagine a more disastrous year for technology than 2014 will be. Sure, there will be a few little bright spots in terms of falling costs for hardware and storage. But three significant trends are converging that will make things difficult at best for the tech side of the accounting profession:

- **Innovation will be sluggish.** This isn't just a function of the ongoing recession, which cut corporate R&D budgets. It is also a function of the budget woes in Washington, DC. Congress, as part of the "fiscal cliff" deal in January 2013, made the R&D tax credit retroactive for 2012 and extended it to the end of 2013 – but no further. In the current fiscal environment, extending the credit further for 2014 is uncertain at best. Also affecting innovation, though, is the fact that the tech industry has just come off of a sustained period of massive and amazing innovations. From smartphones and Facebook to the iPad and Google Glass, we have staggered consumers and business users alike with the sheer breadth of innovation over the past decade. In 2014, we'll take a breather to catch up and evaluate where we are.
- **Government funding for technology will be scarce.** Between the scandals, the website catastrophe of the Affordable Care Act, and the fiscal woes, the government doesn't have the luxury to indulge in technology. There is an election coming. And while things like the National Broadband Plan and broadband stimulus took center stage in the first two years of the Obama Administration, technology will only be mentioned in 2014 in reference to failures of websites and security. Worse yet, the government research projects that drove such innovations as the optical digital recorder and the Internet are difficult to fund these days. And research grants across the board have dried up.
- **Hardware inventories are building.** Two factors are involved in this – the economy, and the failure of some core technologies that were supposed to be huge in 2013 but failed to materialize (as in touch screens). In the countries that make

microprocessors, memory, peripheral devices and other hardware, inventories are

backlash – and we would be foolish indeed to think we will escape it this time. The innovations of the Twenties (automobiles, radio, airplanes) gave rise to the first of the science-based monster movies. Manned space travel gave way to fears of alien UFOs. And the current iPhone and tablet revolution will give way to...who knows. But there is a consumer backlash that will ebb and wane in 2014.

Last year, we predicted with great confidence that 10 things would happen:

 1. Automobile technology would be an emerging trend.
 2. AOL would make a comeback.
 3. The desktop PC would face declining sales, but would not be dead.
 4. Tax preparation systems would stage a recovery to become more central to accounting practices.
 5. Computer security would begin to evolve.
 6. Touch screens would be a bust.
 7. Windows 8 would be...somewhat successful. But no more than that.
 8. Technology costs would soar, especially for cell phone data plans.
 9. PC Gaming would stage a comeback against "game consoles."
 0. App Stores would become a fading trend.

We won't handicap these predictions, except to note that the last one was only half true. While "app stores" flourish, both the number of apps available and their sales numbers are dismal at best. We'll cut short the discussion of which others held true to save space for the trends to come in 2014.

But I would be remiss not to note that this is the 20th consecutive year we have done this column, predicting technology trends. And that we are nearly always right.

Predictions: 2014 Technology Trends

1. **GPS devices are going the way of the wrist watch.** And for the same reason – they

2. **Voice Command will become a major battleground.** Twelve states, the District of Columbia, Puerto Rico, Guam and the US Virgin Islands prohibit **all drivers** from using hand-held cell phones while driving. Beginning in October 2013, all laws were designated **primary enforcement**—an officer may cite a driver for using a hand-held cell phone without any other traffic offense taking place. Some 37 states and DC ban all cell phone use by **novice drivers**, and 20 states and DC prohibit it for **school bus drivers. In addition,** 41 states, DC, Puerto Rico, Guam and the US Virgin Islands ban text messaging for all drivers. The point of all of these laws is that users of smartphones won't be able to use them...without hands-free operations. The technology of speech-to-text and vice versa was once a sleepy little side-technology mostly being pushed by Nuance with its Dragon Naturally Speaking products. Now Microsoft and Google are in the fray, with Apple not far behind. Look for voice commands to become better and more useful in 2014.

3. **Hardware costs will fall.** Look for virtually every kind of computer hardware except laptops to take a nosedive in 2014. Memory, drives, printers, monitors and motherboards will become cheap as manufacturers shed their high inventories and keep the factories running. Places to look for bargains include SD storage devices, RAM memory, solid-state drives, printers and monitors. This is likely the year to invest in dual monitors for tax and audit work, if the firm has not already done so. Also, an increase in RAM for office computers and an upgrade in laser printers will be good investments.

4. **Identity theft will become a major issue.** Identity theft has changed dramatically in the past decade. While there are still hackers and phishers and insecure Wi-Fi to worry about, the bulk of the network intrusions that lead to identity theft don't happen when consumers visit the wrong websites. The name of the game today is to hack a major company that collects personal information, which includes virtually every company in the US. While some companies, like Amazon.Com, take the security of this information seriously, many do not. Look for Congress to

address this by finally holding companies financially responsible for not securing

and successful, cloud storage of client data is not. Cloud storage systems suffer from a lack of automatic backup capabilities, lack of auto-synchronization without third-party software, and a general lack of reliability. While the worst offender is Microsoft's SkyDrive, others also have these shortcomings. Truth is, until cloud storage systems resolve these problems they will not see major adoption by accounting firms that value their clients' data.

6. **Windows 9 will be rushed to market in 2014.** Microsoft is failing on so many fronts that the executive offices in Redmond must be in full panic. Instead of driving PC and laptop sales, Windows 8 has been such a disaster that the company is left teetering and vulnerable. Office 2013 is failing. Its cloud storage solution, SkyDrive, is not only failing, it faces a name change due to a court loss over its name. Windows 8, for all of its wonderful attributes, has a user interface that has left both consumers and business customers fleeing in panic. At this point, Microsoft needs to bury Windows 8 and fix Office 2013. Though most pundits think it will take until 2015 for Windows 9 to appear, I look for it to make its first appearance for public beta before the end of this year.

7. **Microsoft will be challenged on the desktop.** Because Windows 8 has been such a massive failure on almost every platform, competitors are ramping up. Apple's iOS will not be a major competitor, simply because Microsoft has such heavy investments in Apple. But Google is under no such constraints, and is working hard to make its desktop solution real enough to challenge the Microsoft dominance of the desktop. And to make the game even more interesting, Mozilla (makers of the Firefox browser) has announced the Firefox OS for smartphones and tablets. A move to the desktop is only a matter of time, and for the first time in nearly 30 years Microsoft will face serious challenges to its desktop supremacy. Even if the challenger is open-source UNIX-based.

8. **Social Media will begin to wane.** It has been marketing dogma for more than a decade that companies must have a "social media strategy." Never mind that the social media are declining across the board, with Facebook losing its core youth

audience and Twitter under legal assault for libelous posts. Never mind that

flexibility that their higher-priced laptop cousins cannot – such as robust video, HDMI outputs, high-resolution cameras and 4G connectivity. In a year of recession and lower employment, which 2014 promises to be, tablets will continue to show strong sales growth. In the long run, once the recession has run its course, consumers will stop trying to pretend that their smartphone or their tablet will replace a decent desktop or laptop PC. But that will not be this year.

0. **Data caps will falter, then fall.** Cell phone companies have major problems with smartphones. Having convinced Congress that 4G cellular could take the place of broadband, they now find that they can't deliver the throughput without massive investments – which the government will not fund. So the major networks have caps on how much data you can download. The secondary networks pretend they don't have data caps, but in truth they do. The caps are just hidden in their subscriber agreements. The bottom line, though, is that streaming media is the future, and that the cellular companies can't hope to compete while still enforcing data caps. That is particularly true now that Verizon has purchased Red Box, and AT&T has its Entertainment service. Those companies can't make money from streaming video and at the same time enforce data caps.

The year 2014 will be one of the most sluggish and most stagnant years of the past decade in terms of technology innovation and new products. On the other hand, this will be an enormously important year in terms of refining technologies and deciding how best to use them.

For accounting firms, this means that 2014 will be a good year to invest in new hardware; a great time to move to SaaS accounting and tax software programs; and a nice time to consider investments in new data storage, whether in the cloud or on the desktop.

Top Web Sites of 2014

The Belarc Advisor. For those maintaining a personal computer at home, this is a handy free utility that provides a complete audit of the hardware and systems of your computer. Available at http://www.belarc.com/free_download.html, note that this is for personal and not business use. Still, it is worth using at home to keep a log of what you have in the system, including model numbers, BIOS numbers, etc.

CCleaner at Piriform.Com (www.piriform.com). CCleaner in its free version (the business version is $34.95) is a first-rate program that cleans temporary files, cleans the computer Registry if you wish, and wipes clean space on the computer so that it cannot be recovered. Highly recommended, and incorporates into all versions of Windows.

Microsoft Security Essentials and Microsoft Defender. Looking for a highly-rated and free anti-virus and anti-malware utility? Look no further than Microsoft itself. The Microsoft Security Essentials program works on computers running Windows XP through Windows 7, and Windows 8 comes pre-installed with Microsoft Defender. While you will need additional malware removal tools for some of the nastier viruses, both of these work well and are highly regarded as anti-virus programs.

Glary Utilities (www.glarysoft.com). The Glary Utilities, for $39.95 and often discounted, are among the most popular and highly-rated utility collections on the market. The collection scans and cleans your PC, cleaning temporary files, removing junk files, fixing broken shortcuts, and resolving a wide range of issues, both major and minor, that most Windows users will have no trouble recognizing. You can configure its One-Click Maintenance option to run just those processes you want with a single click, making regular maintenance simple.

Malwarebytes (www.malwarebytes.com). One of the most highly recommended tools to remove viruses is Malwarebytes. For home use, the Malwarebytes Anti-

Malware Free utilizes Malwarebytes' powerful technology to detect and remove all

outcome, including which, if any, malicious software was detected and removed. The free tool is updated each Tuesday by the Microsoft Updater and is a first line of defense if malicious software is discovered by an anti-virus program.

iProp (**www.amazon.com/Universal-Android-Windows-Tablets-eReaders/dp/B004W697ES**). I don't spend a lot of time beta testing hardware these days, but this gadget has some strong appeal. It solves the problem of how to balance a tablet in those awkward places where the usual type of stand doesn't work...like when you want to balance it on your knees. It's marketed as an iPad device, but works well with any tablet.

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