Smart phone functions seep into all sectors

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The smart phone is quickly becoming an electronic Swiss Army knife.

Already used to surf the Web, check e-mail and get turn-by-turn directions, smart phones will soon acquire many more features and functions. At the Consumer Electronics Show last week, tech companies demonstrated how devices such as Apple's iPhone could be used to monitor blood pressure, serve as the brains and display for car radios, and even replace a traditional laptop or desktop computer.

I wrote before the show that the PC's reign as the dominant kind of computer was threatened by new devices, including smart phones, tablets and smart TVs. But it was eye-opening at CES to see the degree to which the smart phone is becoming the new PC - only more capable.

Consumers already can use the iPhone to remotely control set-top boxes, such as Apple TV. Soon, smart phones will be able to direct a much wider range of devices, including televisions, stereo amplifiers and DVD players, becoming, in effect, universal remote controls.

One new use for smart phones is to replace the brains or displays once built into stand-alone devices. For example, companies such as Withings are developing personal health devices, such as blood pressure cuffs, that attach by cable to an iPhone. An application on the iPhone initiates a blood pressure reading, displays the results and tracks readings over time.

Similarly, QNX, which is now owned by BlackBerry maker Research In

Motion, demonstrated technology that would allow drivers to access smart-phone applications on the center console screens of their cars by connecting their phones to the consoles either wirelessly or by a cable. That would allow drivers to call up Pandora, say, without having to pick up their smart phone or have the app preinstalled on their car stereo system.

And a company called Oxygen Audio showed off an aftermarket car stereo unit that doesn't include a screen at all. Instead, it has a dock in front into which you slide an iPhone. The device relies on the iPhone to tune in Internet radio stations or access turn-by-turn directions and provides a special iPhone app to tune in FM or AM radio stations.

Meanwhile, auto giant General Motors and startup Mavizon Technologies have developed applications that allow smart phone users to connect to the sensors already in cars to find out when they need to change their oil or when their tire pressure is low.

Perhaps the most revolutionary steps are those that effectively transform smart phones into PCs. Motorola showed off an accessory for its upcoming Atrix smart phone that looked like a laptop. Only it wasn't really a computer. It was just a shell for a display, keyboard, track pad and battery; it had no CPU or operating system on it.

On the back, it had a dock for the Atrix smart phone. The Atrix comes with a program called Webtop that automatically launches when it's docked, allowing it to perform like a PC.

Driving this expansion of smart-phone capabilities are a number of factors. The processing power and memory within the devices are becoming comparable to what is found in PCs, allowing phones to run ever more powerful applications. Makers of the underlying phone operating systems have quickly evolved their software, allowing outside

programmers to take advantage of a growing number of functions, sensors and capabilities built into the devices. And application marketplaces have made it easy to find and install new programs for smart phones.

But smart phones also have some inherent advantages over PCs: They're much more portable, they're aware of their location, and they're often much less expensive than PCs. That means consumers can upgrade them and take advantage of new features much more frequently.

This innovation focused on smart phones is certain to continue. Heck, it's getting to the point where I won't be surprised if the Swiss Army knife of devices even starts sporting a pocket knife or bottle opener. There's got to be an app for that, doesn't there?

More information: Troy Wolverton is a technology columnist for the San Jose Mercury News.