

ALTERNATIVES

Connecting with the “Internet of Things”

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While many consumers are still getting used to having a computer in their pocket or purse,

technological innovators have even more tricks up their sleeves. Grant Bowers and JP Scandalios of Franklin Equity Group believe the latest trend, the “Internet of Things,” is changing the way people live their lives. They discuss why they think the movement is important and analyze other opportunities in the tech sector.

Technology has always been an area of rapid improvement, and we are currently entering an exciting new phase of technological advancement. We think the culmination of the last 15 to 20 years of development is bringing many exciting high-tech trends to a level where

we will see commercial usage, and many have the potential to dramatically change our everyday lives.

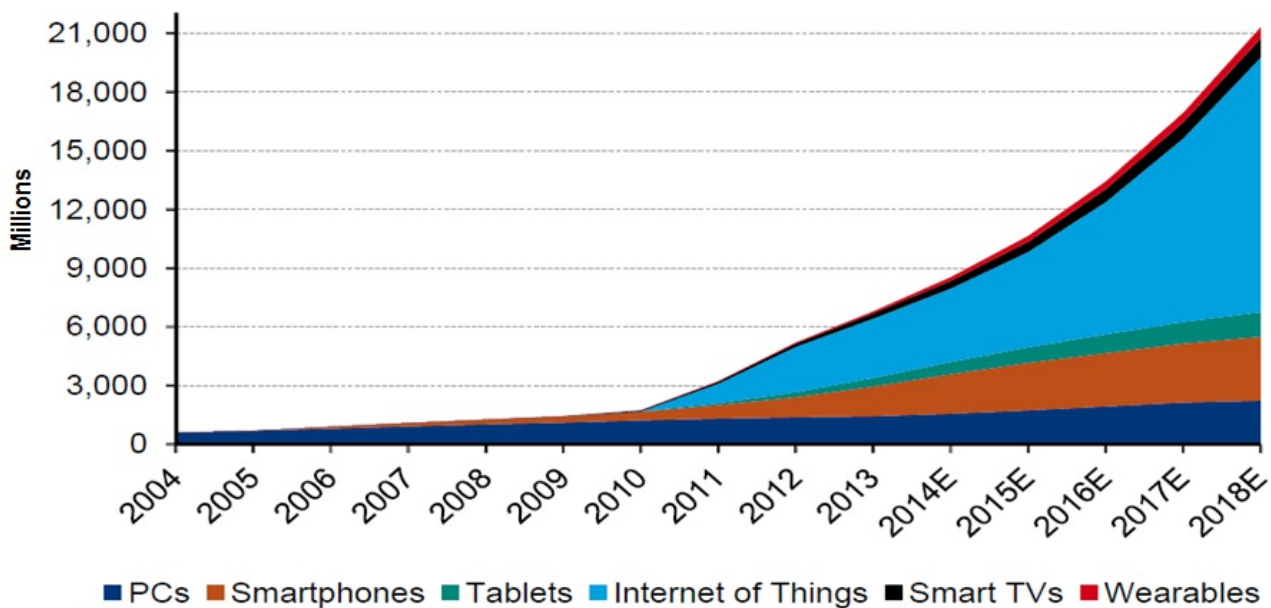
One of these compelling trends, in our opinion, is the “Internet of Things.” The phrase encompasses a variety of concepts, but at the most basic level it refers to the integration of computers into, and interconnection of, everyday items via wireless Internet. In recent years we’ve seen a proliferation of so called “smart” devices, where the addition of sensors and processors can take a device and dramatically improve its function. We now see a trend where smart devices can connect to one another and share data, allowing them to perform new and exciting tasks. We believe the explosion of such connected devices will significantly change the way individuals and businesses operate on a daily basis.

One device most people are likely familiar with that would fall under that category is a fitness band that people wear to track physical activity. The device, which is typically held in a wristband, records—among other things—how many miles you’ve walked per day. The statistics gathered by the device may then be accessed on a computer or smartphone. Another would be a smart thermostat, which rather than having a static program of heating and cooling your house, learns your habits over time and automatically adjusts to them.

“Internet of Things” Likely to Spur Mobile Device Growth



Connected Devices Global Installed Base



Source: BofA Merrill Lynch Global Research, 2015 *Technology Year Ahead: The Internet of Things*, December 17, 2014. See

www.franklintempletondatasources.com for additional data provider information.

There is no assurance that any projection, estimate or forecast will be realized.

Much of our excitement comes from where these devices interact. For example, if you take the two devices described above and allow them to communicate, the fitness band tracking your movement can now tell by your activity if you've woken up earlier than usual and prompt your thermostat to start heating or cooling the house. Additionally, the fitness band could communicate to the thermostat when you are not at home, potentially resulting in energy savings. Broaden this to include other connected home devices like lights and door locks you could control via an app on your smartphone, and you can see the possibilities continue to grow.

Smart, connected products can also provide other potential benefits. Producers can use the devices to gather information on how consumers are using them and then provide updates to improve functionality and user experience accordingly. A shift from selling individual products to a more service-oriented model benefits both the producers, who can develop recurring revenue streams, and consumers, who are always provided with the latest version of a product rather than purchasing incremental upgrades. We have seen

this shift already take place in the software space, with a shift toward software-as-a-service (SaaS) rather than packaged products, and we think the transition of this trend into physical goods will likely have similar benefits.

Connected Cars

Another everyday device that is seeing rapid technological improvement is the automobile. Sensors embedded in automobiles can record if tire pressure is low, if the engine is running too hot, how fast you are driving and how hard you are braking. By allowing cars to transmit and receive these data, you can have cars that react faster than human drivers to changing conditions and, for example, engage the brakes to prevent a crash. In aggregate, this information can be used for better traffic management as well, when integrated into systems that relay traffic information to other drivers or even to the systems that control traffic lights. These are the precursors to a fully autonomous car, something we may see in the next five years.

Granted, the days when commuters will be able to read a book during their drive to work are probably quite far off, but we think some areas, particularly those in a closed environment such as industrial and corporate complexes, will be able to take advantage of this new technology relatively soon. The same technology involved in driverless vehicles also has applications for warehouse and inventory management, where sensor-equipped merchandise can be transported by autonomous vehicles. We think, in the near term, business and enterprise applications will likely be the largest end market for the Internet of Things, influencing improvements in productivity and customer service as well as cost reductions.

Data-Driven Investment Opportunities

As investors, we look beyond individual devices and focus on the technology that allows them to work, or the ramifications of their growth. While perhaps not as exciting as driverless cars or smart home devices, we believe the specialized sensors, semiconductors and wireless communications chips these devices require to work present strong investment opportunities. As connected devices expand, companies with unique and protected intellectual property in these areas should benefit.

Additionally, the data is at the heart of what makes connected devices exciting. As these devices accumulate vast troves of data to analyze, for example, productivity enhancements or energy savings, it increases the importance of cyber security to protect it given its personal and sensitive nature. We believe data security will be another secular growth area in the technology sector, for this and other reasons.

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