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THE MOBILE REVOLUTION

The wireless age will likely continue to consume us with new devices and capabilities. For this reason, we see the "Mobile Revolution" as an interesting investment opportunity.

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Introduction

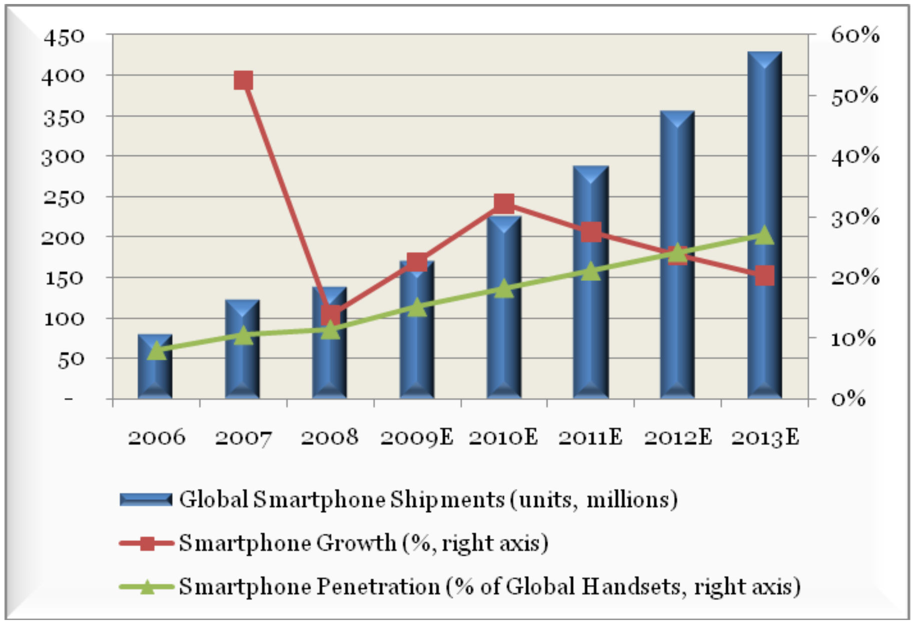
The world has gone wireless! At the end of 2008, there were four billion wireless subscribers, and some believe we will reach five billion in the next few years. Clearly, the wireless age is upon us, and will likely continue to consume us with new devices and capabilities. For this reason, we see the "Mobile Revolution" as an interesting investment opportunity.

As the world's wireless networks are aggressively transitioning to "3G" (third generation technology), and will soon begin rolling out the early stages of "4G" networks, consumers are now able to do much, much more with their wireless devices than they could only a couple of years ago. New wireless networks are much faster and offer "mobile broadband" capability, which means these networks can deliver great quantities of mobile data very quickly. As a result, consumer electronics makers offer increasingly capable and "data hungry" mobile devices that consumers are eager to buy.

This evolving ecosystem requires significant investment to build, maintain, and grow, with the potential for positive investment opportunities throughout.

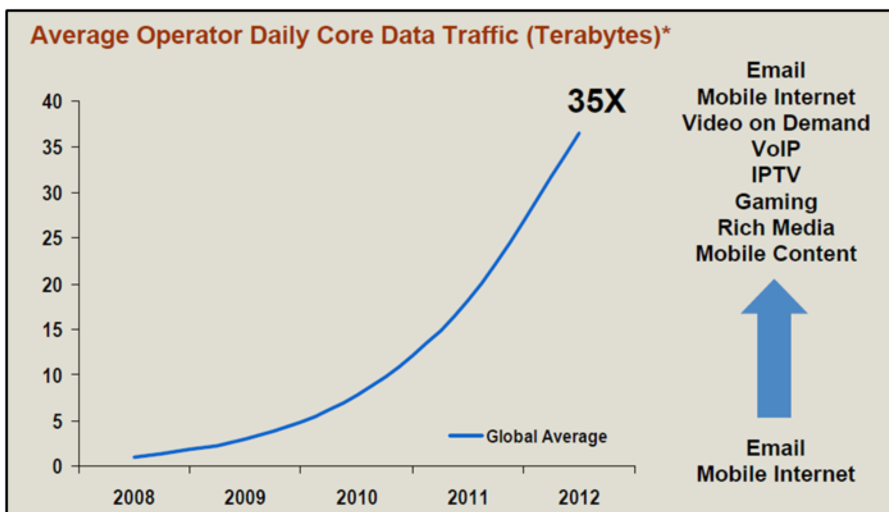
Smartphone Growth Continues

Within the billion-unit-plus mobile handset industry, "smartphones" remain a strong growth segment – even through the recent/current macroeconomic weakness. Smartphones are the newest generation of mobile handsets, and include a growing set of capabilities – including email, internet, music, video, and a seemingly endless list of new applications. These devices are growing rapidly and represent an increasing percentage of the broader handset industry every year. As the chart below shows, about 170M smartphones are expected to ship in 2009, representing about 15% of the total market – and this number is estimated to grow to about 430M units in 2013, approaching 30% of the total handset market.

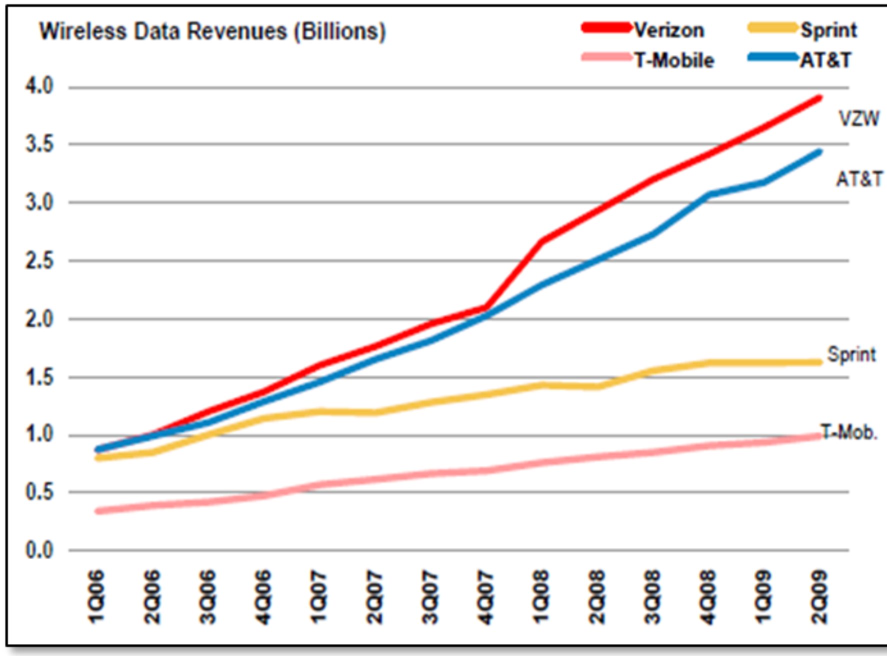


Mobile Data Explosion

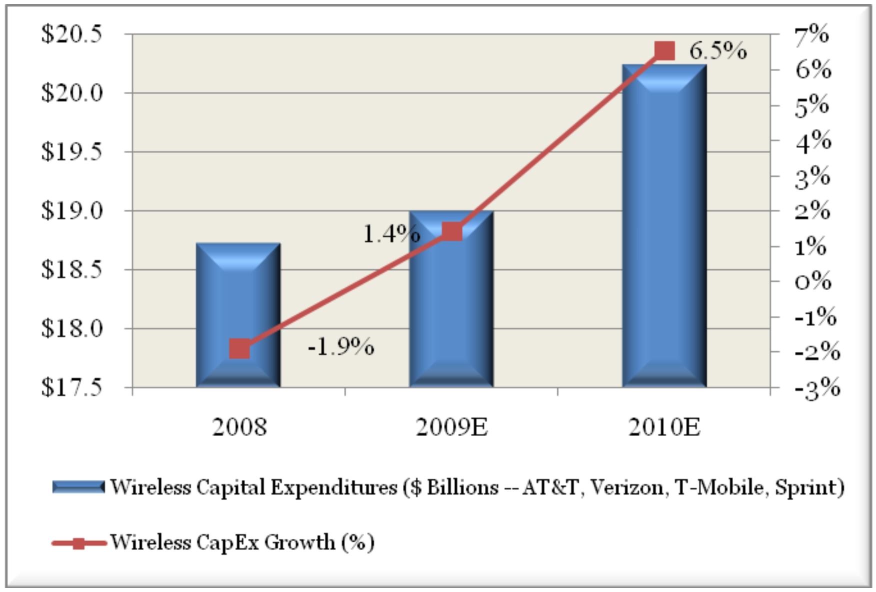
The substantial growth in smartphone units, while very positive for the handset industry (and specifically, the leading smartphone suppliers), is placing substantial stress on the wireless network infrastructure currently in place. The reason is simple: Smartphone users consume vastly more mobile data than prior-generation mobile phones. As an example, one recent report states that an Apple iPhone user consumes 100 times more mobile data than a traditional cell phone. With a growing user base of iPhones, BlackBerries, and a growing list of other smartphones and mobile devices, the wireless networks are running out of capacity.



As the chart above illustrates, research from Informa Telecom and Media states that we are just at the beginning of an explosion in mobile data network traffic. Informa expects data traffic to increase by 35 times from 2008 to 2012 – not due solely to an increase in smartphone units, but also to the growing data-hungry applications that are being used on these smartphones and other mobile devices. As a result of this explosion in data traffic, the wireless network operators have experienced a similar ramp in wireless data revenues. Since early in 2006, data revenue generated from the top four network operators (Verizon, AT&T, Sprint and T-Mobile) has grown from about $2.5-3.0B per quarter, to about $10B in the second quarter of 2009. While the chart cannot predict the future, the trajectory of data revenues appears to be on a path to higher levels.



To overcome the massive utilization and stress on the current wireless networks, the network operators are investing heavily to expand and enhance their networks – in the hopes of satisfying the rapidly growing demand for mobile data. As one can see from the data traffic forecast above, this could be an ongoing challenge in the coming years. Per the chart below, wireless capital expenditure investments by the top 4 are in the $19 billion range for 2009, up about 1% from 2008 (largely due to the challenging macroeconomic environment), and are forecast to ramp about 6.5% in 2010 to over $20 billion. The challenge will be keeping up with data traffic growth, and ensuring that customers (wireless subscribers) have an adequate user experience (namely, that the data rate is fast enough – all the time and in any location). One of the widely publicized results of the rapid ramp in the number of Apple iPhone users has been customer complaints about slow data rates on the AT&T network – effectively, the inability to really use the exciting new iPhone they just bought for its desired purposes. The network operators must stay ahead of the curve (if possible) to keep customers happy. This will require constant effort and likely a lot of dollars in the next few years.



CONCLUSION: WHERE ARE THE OPPORTUNITIES?

The wireless revolution has produced a generation of devices that combine an increasing set of capabilities – all driving consumption of more mobile bandwidth and data by consumers. This seemingly never-ending thirst for mobile data – whether it be through email, internet, multimedia, or other applications – is likely to continue at a rapid rate.

From an investment perspective, where are the opportunities? As discussed above, these trends will likely drive mobile device suppliers to continue to innovate and deliver exciting devices for consumers to buy. The network operators will need to continue to invest in their networks to ensure they can continue to drive their mobile data revenue streams. Accordingly, there are multiple parts of the food chain that could benefit. In looking for areas of investment, we point to a number of areas:

- <u>Consumer Electronics</u> – Consumers want new, innovate mobile devices, and are willing to pay up for them.
- <u>Network Infrastructure</u> – To build out the wireless networks, the operators must implement hardware and software network infrastructure.
- <u>Network Operators</u> – The operators themselves are experiencing strong mobile data revenue growth. If (and this could be a big "if") the mobile business can overcome the challenges in the other parts of their businesses, the operators could be at an interesting point in their evolution.

- **Applications and Content** – The list of applications and content being utilized on mobile devices evolves every day. As new applications and content are developed and deployed, an evolving group of suppliers (or the winners) may emerge.

- **Cloud Computing** – A growing range of software solutions are based in "the cloud" – effectively, the applications are based on the internet and can be accessed anywhere. As these applications are available on mobile devices, another growth opportunity is emerging.

- **Mobile Internet** – As more consumers use the internet on their mobile devices, the business opportunity begins to shift into new territory for a broad set of internet companies.

While there are multiple areas of the industry that will profit from the mobile revolution, one thing is certain – the opportunity is here. The mobile data explosion has begun and will likely continue to represent an interesting investment opportunity in the coming years.

Cabot Money Management, Inc. *is a wealth management firm based in Salem, MA, with additional office space in Boston. As a firm with 25 years of experience, Cabot has a national clientele and is a frequent contributor to CNBC, Bloomberg, The Wall Street Journal, The New York Times, and other local, national and international media. Cabot provides highly customized global investment management services coupled with tax, estate and financial advice for individuals and their families.*

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