3 Critical Trends in Mobile Communications for 2014 and Beyond
While mobile communications devices have been commercially available for over 30 years, their mass adoption has been a more recent phenomenon. In the interim, the mobile market has been marked by the repeated introduction of disruptive technologies—in the design and power of both hand-held devices and the networks that serve them—that have incrementally transformed the scope and scale of mobile communications along the way. Thus, car phones gave way to bag phones and eventually to the brick-sized cell phones of the early 1990s—all of them advancing the state of the art at the time; all of them now almost comically antiquated by today’s standards.

From the consumer’s perspective, the most recent such “game changer” in the mobile communications market was the introduction in 2007, of Apple’s iPhone. Taking advantage of the innovation in touch interfaces and processing power, the device transformed the nascent smartphone landscape, offering consumers a polished and user-friendly hand-held that Apple initially aimed to meet just three needs: to access the Internet, to be a widescreen iPod and play music, and as communication. Six years removed from the introduction of the iPhone, smartphone shipments in 2013 will top 1 billion million units worldwide—representing almost half of the handset market.

Once a novel category reserved for the high end of the handset market, smartphones are fast becoming universally affordable, as technology advances and component price erosion bring low-end designs to near price parity with traditional feature phones. Despite the explosion in the popularity of smartphones—shipments of which IHS forecasts will reach 1.5 billion worldwide in 2017—risks abound for players in the mobile communications sphere as this market takes off, according to Ian Fogg, director of mobile and telecoms, IHS Technology. “Network operators face operational challenges relating to the vast increase in data volumes that these devices will transmit. As a result, carriers must adapt their service pricing structures to compensate for declining voice and text revenues. To help the carriers, handset makers must anticipate which emerging trends in smartphone functionality will most captivate customers and so drive smartphone sales and carrier service revenues,” Fogg said.

Trend: The Ubiquity of Smartphones Makes for a More Diverse Consumer Market

Not long ago, smartphones represented a niche segment of the mobile market. Then, smartphone users fitted a relatively consistent profile: higher-income, better-educated, and technologically savvy. Smartphones were viewed as premium devices and, as such,
came with relatively expensive carrier plans attached to cover the costs of making the smartphone affordable for consumers to buy for a low up-front fee.

Since the launch of the iPhone, as the smartphone market has matured, handset makers have filled the market with a widening range of devices to cater to a broader array of consumers. Their efforts have been successful: IHS forecasts shipments of low-end models—those with relatively fewer features and smaller memory capacities—to rise at a compound annual growth rate of over 115 percent during the period 2010-2015 (compared with just 16 percent for mid-range to high-end smartphones).

With their affordable price tags, lower-end smartphones are critical to drive smartphone adoption in pre-pay markets across the richer economies, most notably in European countries, such as Italy and the U.K. Such lower-cost smartphones appeal in retail-dominated countries where smartphones are routinely sold without carrier subsidy or carrier contracts. As smartphone prices continue to fall lower, they open up markets of first-time users and consumers in emerging economies such as China, India, Latin America, and sub-Saharan Africa, where subscriber levels are now rising at the fastest rates globally. These units are typically used with inexpensive pre-paid data that targets consumers who either prefer not to commit to a longer contract or are unable to do so.

Risk: The Expanding Mix of Mobile Customers Boosts Costs and Complexities Associated with the Development of Products and Services

As the mobile market has expanded to include a more diverse mix of customers, companies operating in the mobile communications market have had to expand their product and service offerings. For handset manufacturers, that has meant increased costs and risk associated with developing new models aimed at emerging customer segments. These primarily lower-end handsets generally return lower profit margins vis-à-vis those sold to the early adopters. As to their development of higher-end/higher-margin handsets, device manufacturers’ continuing challenge is to anticipate where the market is headed and design devices with new functionalities that persuade customers to continually upgrade their existing phones. This amid a climate of intensifying competition among OEMs for the high-end mobile dollar.

The challenge for wireless carriers—particularly in mature mobile markets such as North America and, to a lesser degree, Europe—is to develop new services and pricing schemes that will permit continued profitability in an environment of declining revenues for their traditional voice and text services. “While wireless carriers have enjoyed largely steady revenues during the smartphone boom, there is no guarantee that that will continue as the universe of smartphone users becomes increasingly dominated by newer, more price-sensitive customers,” Fogg said.

In developed markets, wireless operators have had success boosting revenues by treating the addition of devices such as tablets to existing customer accounts as new subscriptions. Looking ahead, carriers will be able to look forward to developing new business in providing connectivity for the emerging machine-to-machine (M2M) market—the revenues from which IHS forecasts will grow from $9.6 billion in 2012, to $22.4 billion in 2016.

Trend: Fourth-Generation (4G) Network Services Offer the Speed and Capacity to Deliver Highly-Immersive Content for Mobile Users

The build-out of 4G mobile networks continues apace globally, with the U.S., Japan, and South Korea at the forefront of development. The technology offers greatly improved upload/download speeds and increased network capacity, enhancing the experience for smartphone, tablet, and laptop users engaged in ever-more data-intensive activities, such as high-definition mobile TV, video streaming/conferencing, gaming, and cloud computing.

For device manufacturers, the development of 4G networks opens up obvious and dramatic opportunities to develop smartphones and other connectable devices that take advantage of the higher bandwidth to provide users with more immersive mobile experiences.
Similarly, 4G networks give wireless carriers the impetus to recruit new subscribers via the offer of new pricing and data plans and expanding areas of coverage. Carriers are using bundled TV, video, and music content with mobile packages to persuade consumers to adopt 4G, opening new opportunities for media companies to enter the mobile market via partnerships with carriers.

**Risk: 4G’s Patchwork of Bands and Frequencies Increases the Cost/Complexity of Building Global Devices; Increased Potential for Carriers to Experience Data Capacity Crunches**

Despite widespread adoption of the Long Term Evolution (LTE) standard for 4G networks, harmonization of networks throughout the world has been hampered by regulators’ allocation of spectrum bands for 4G build-out across a wide range of frequencies. From the consumer’s standpoint, this hinders their ability to use the same device to roam internationally across 4G networks. For device manufacturers, it increases the cost of building devices for sale across markets, as they are faced with either developing multiple variations of a given model to ensure it will operate in each market—greatly complicating their supply chain—or attempting to develop a device with enough band support to work across regions.

Long a complaint of 3G customers has been the tendency for network service to slow to a crawl in densely populated areas—such as conferences, arenas, and malls—where many users are attempting to access the network at the same time. As wireless carriers move fully to 4G mobile networks, the ever-larger bandwidth demands consumers place upon them will create the potential for bottlenecks throughout their networks, according to Fogg. “Initially, 4G technology will boost capacity enormously and this will raise consumer speed and service expectations. To continue to deliver a respected service, mobile operators will have to upgrade their networks carefully as their traffic and data burdens balloon in the coming years—or face the prospect of losing customers,” he advised.

**Trend: Smartphones Beget Smart Accessories/Wearable Technologies**

The global market for wearable technologies—accessories affixed to clothing or the body that have advanced circuitry, wireless connectivity, and independent processing capability—reached 96 million shipments and $8.5 billion in revenue in 2012, according to IHS. By 2018, IHS forecasts shipments will reach 210 million, driving $30 billion in revenue. These smart accessories include a diverse range of product types in applications ranging from healthcare to fitness to infotainment. While wearable technology growth up to this point has been enabled by multi-sensor combination packages and low-power wireless chips, the next wave of innovation will involve increasingly efficient, low-power displays and processors that can extend battery capacity to enable increased functionality in smaller form factors.

“Smart accessories represent a new frontier and a major opportunity for manufacturers of smartphones—which will serve as a communications hub sharing data with many such devices—and smartphone app stores will be the key distribution points for smart accessory apps,” said Fogg. Several of the major handset OEMs have already ventured into this arena, including Samsung, Sony, and Motorola, with their respective smartwatch offerings, and Google with its Google Glass—its smart heads-up display that maintains a constant connection to a smartphone running the My Glass app. While these are nascent markets for first-generation smart accessories, this small market size gives device manufacturers the chance to experiment with building new revenue streams via the development not only of such accessories, but even more importantly of the services that will run on top of these devices to connect them together.

**Risk: Uncertain ROI for Developers Operating in Such a Nascent Market; No Guarantee for Carriers That They Can Partake in New Revenue Streams**

High development costs, uncertain return on investment, and a lack of proven market knowledge as to which features, functions, and designs will ultimately resonate with consumers, make investment in smart-accessory development a high-risk/high-return proposition for device manufacturers—particularly for those operating in the nascent
stages of this market. Smaller handset operators, in particular, may not have the breadth of expertise or scale of operations to compete with the likes of Apple, Samsung, and Sony at this stage of the market’s development.

For wireless carriers, the risk is that they will be left out of this new revenue stream altogether. While they will clearly play an integral role providing the service levels required to ensure the success of such products, their ability to boost rates, as a result of that provision, is not clear.

Information contained in this article was sourced from interviews with Ian Fogg, Director of Mobile and Telecoms, IHS Technology.