



## Wireless industry has significant impact on U.S. economy

*The following are excerpts from an analysis prepared for the CTIA by Ovum, Boston ([www.ovum.com](http://www.ovum.com)) and Indepen Diespeker Wharf, London ([www.indepen.co.uk](http://www.indepen.co.uk)) September 2005. For the entire report, [Click Here](#).*

The wireless industry is a major factor in the vitality of the U.S. economy, with significant growth in revenue and jobs related to the industry and a tremendous opportunity for impressive expansion. In 2004, the industry generated \$118 billion in revenues and contributed more than \$92 billion to the country's Gross Domestic Product. Also in 2004, more than 3.6 million jobs in the U.S. were either directly or indirectly linked to the wireless industry. A report prepared by analysts David Lewin and Roger Entner examines the immense, positive impact the wireless industry has on the U.S. economy and its potential to fulfill an even more prominent role in the economic health of the country.

Source: CTIA SmartBrief, 11/9/2005.

→ Provides lots of good demographic and economic data about the US economy

## Ten trends to watch in 2006

In the January 19 issue of *The McKinsey Quarterly*, Ian Davis and Elizabeth Stephenson outline ten trends that will change the business landscape. Categorizing them in terms of Macroeconomic, Social & Environmental, and Business & Industry trends, the authors make the case that companies need to understand the implications of these trends alongside customer needs and competitive developments.

Gleaning from these trends, one observes various demographic patterns, including that:

- Asia (excluding Japan) accounts for 13 percent of world GDP, while Western Europe accounts for more than 30 percent. Within the next 20 years the two will nearly converge.
- The US will still account for the largest share of absolute economic growth in the next two decades.
- Almost a billion new consumers will enter the global marketplace in the next decade as economic growth in emerging markets pushes them beyond the threshold level of \$5,000 in annual household income—a point when people generally begin to spend on discretionary goods.
- The 33 million university-educated young professionals in developing countries is more than double the number in developed ones: For many companies and governments, global labor and talent strategies will become as important as global sourcing and manufacturing strategies.
- Knowledge production itself is growing: worldwide patent applications, for example, rose from 1990 to 2004 at a rate of 20 percent annually.

Reference: [McKinsey Quarterly](#)

A shorter version of this article was published in the *Financial Times*: "Plot your course for the new world", By Ian Davis, FT.com site, January 12, 2006. Summary: Choice of product market, technology and geography are critical components of long-term economic performance.

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## An unusual marriage?

...Or a creative relationship?

New home buyers are used to their builders asking about siding, flooring and countertops, but DSL, wireless and satellite TV?

In an effort to lock in residential customers early, regional carrier BellSouth has signed a partnership with Pulte Homes.

The marketing deal signed last November will have Pulte employees pitching BellSouth's phone and broadband services as well as mobile phone service from Cingular Wireless. Pulte is the largest new home builder in the US by revenue and has a major presence in BellSouth's territory.

Pulte is no stranger to these agreements, and views them as a way to improve customer satisfaction. Pulte has similar pacts in place with Qwest, Sprint, and Verizon in their respective coverage areas.

For entire article [Click Here](#).

## Tying up science

Are intellectual property protections slowing progress?



Intellectual property is arguably the lifeblood of discovery. But as academic scientists increasingly accept industry funding and engage in commercial activities such as patenting, the concern is that biomedical research will suffer as rights holders refuse to share their materials and information.

Patents, however, may not be the issue, according to two recent surveys and a new report by the National Academy of Sciences. For the entire article in The Scientist (January 19, 2006), [Click Here](#).

## Why things fail

Almost two years ago, Lux Research and famed UK economist Paul Omerod teamed to look at nanotech's market size and likely evolution—the results were published in one of Lux's popular framework pieces.

Paul Omerod recently wrote a book due out in the US in a few months, called "Why Most Things Fail". He declares that failure rather than success is the distinguishing feature of corporate life. Take the top 100 companies in the US from 1919 to 1979 and you'd find nearly 1 in 4 couldn't stay on the list for more than a decade.

Failure happens. Ever wonder what happened to the companies in Tom Peters' best selling "In Search of Excellence"? Not so excellent anymore. Every single year 10% of all companies in the US will fail, stumble, fall flat on their face, shed their jobs and shut down in disgrace.

The average person lives, say, 70 years. What about the average company? Well in the 70 years before 1995, here's what happened to the 100 biggest industrial

companies in the world: 29 went bankrupt. 48 disappeared. The rest? Yeah, they survived—but only 19 remained in the top 100. Omerod echoes the tongue in cheek wisdom of Virgin mogul Richard Branson when asked: "How does someone build a small firm for themselves?" Buy a very large one and just wait. (Branson's revealed secret to becoming a millionaire: Become a billionaire—then start an airline.) By the way, millions of people have increasingly flown on airplanes in the last half of the 20th century. But the airlines still lost more money in just two years (2001 and 2002) than all the aggregate profits ever made profit from 1955-2000.

Source: *Forbe/Wolfe Nanotech Weekly Insider*, 11/11/2005

## Fast facts about cancer

Given a test for cancer that's 98% accurate and given that 0.5% of the population actually gets cancer—if you get checked out and test positive, the odds you actually have cancer are 98%, right? That's the most common answer. But it's wrong.

It's only about 20%.

Here's why: Let's say that 10,000 people are given tests for cancer. How many of them are positive? Well 0.5%, or 50 out of 10,000, actually has cancer. With a 98% accuracy rate, 49 of them will have positive results. Of the 9,950 people who don't actually have cancer, 2% of them will actually test positive (inaccurately). So that's another 199 positive tests, giving us a total of 248 positive tests. But 199 of those are false positives. Hence the conditional probability of having cancer if you test positive for it is 49/248 which is about 20% and not the 98% figure most people intuit.

SOURCE: *FORBES/WOLFE Nanotech Weekly Insider*, November 18, 2005 by Josh Wolfe (email: [nanotech@forbes.com](mailto:nanotech@forbes.com)).

Here are more fast facts:

- North America has 5% of new cancer patients each year, yet accounts for 44% of the worldwide cancer diagnostics market.
- Molecular assays, tissue assays and pharmacodiagnosics represented \$11 million of the total cancer diagnostics market in 2004, but are predicted to account for \$480 million in sales in 2009.
- 10.1 million new cases of cancer are diagnosed each year. By 2020 the World Health Organization predicts there will be 15 million new cancer cases each year.
- Traditional diagnostic methods of detecting cancer – histology/cytology and immunoassays – comprise 75% of the market and are predicted to still have 73% of the market in 2009.

Source: *Drug Discovery News*, November 2005, p. 3

## USPTO releases annual list of top 10 organizations receiving most U.S. patents

Listed below are the 10 corporations receiving the most U.S. patents for inventions in 2005, along with their 2004 ranking.

2005 Rank	2005 Patents (Preliminary)	Organization	2004 Rank
1	2,941	IBM	1
2	1,828	Canon	3
3	1,797	Hewlett-Packard	4
4	1,688	Matsushita Electric	2
5	1,641	Samsung	6
6	1,561	Micron Technology	5
7	1,549	Intel	7
8	1,271	Hitachi	8
9	1,258	Toshiba	9
10	1,154	Fujitsu	11

Source: <http://www.uspto.gov/>

## Favorite websites: ibiblio

As in "Internet librarianship", ibiblio is a digital library and archive project. It is run jointly by the University of North Carolina at Chapel Hill and the Center for the Public Domain. It also offers streaming audio radio stations. In November 1994 it started the first internet radio stream by rebroadcasting WXYC, the UNC student-run radio station. Unless otherwise specified, all material on ibiblio is assumed to be in the public domain. Among the categories of information available are:

- Arts and Recreation
- Natural Science and Mathematics
- Social Sciences
- Technology and Applied Sciences
- Geography, Biography, and History
- Language
- Literature

SEE: <http://ibiblio.org/collection/>

## Cell phone use soars in China

SHANGHAI, Nov. 6 (UPI) -- The number of cell phones in China has reached the 376 million mark.

Industry officials reported at the 2005 China Mobile Telecommunications Terminal Development Forum that at the end of 2004 there were 25.7 mobile phones in the country for every 100 residents, which is above the world average. At the end of September, there were a reported 376 million subscribers.

Officials predicted the country will have 380 million cell phones by the end of the year, 520 million by 2008 and 600 million by 2010.

Revenue from the industry is estimated to be 250 billion yuan or \$30.86 billion.

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## USPTO issues 7 millionth patent

On February 14, 2006, the United States Patent and Trademark Office (USPTO) issued patent No. 7 million to DuPont senior researcher John P. O'Brien for "polysaccharide fibers" and a process for their production. The fibers have cotton-like properties, are biodegradable and are useful in textile applications.

It took 75 years to get from patent No. 1 to patent 1,000,000. It has taken less than one tenth of that time to go from 6 million to 7 million patents.

- Patent No. 1,000,000 was issued on August 8, 1911, for a tubeless vehicle tire.
- Twenty-four years later, on April 30, 1935, patent No. 2,000,000 issued for a vehicle wheel to increase the safety and longevity of pneumatic tires.
- Patent No. 3,000,000 issued 26 years later on September 12, 1961, to an inventor at the General Electric Co., for an automated system that translated letters, numbers and symbols to data processing code.
- Patent No. 4,000,000 issued 15 years later on December 28, 1976 for a process for recycling asphalt aggregate compositions.
- Fifteen years later, on March 19, 1991, Patent No. 5,000,000 issued to a University of Florida inventor, for a more efficient way to produce fuel ethanol.
- Only eight years later, patent No. 6,000,000 issued on December 7, 1999, to 3Com Corporation's Palm Computing for its HotSync® technology.
- And now just a little more than six years later, patent No. 7,000,000 issues.

Patent No. 1 was issued in 1836. Earlier patents were not numbered, although the first U.S. patent was issued in 1790. Approximately 10,000 patents were issued between 1790 and 1836. The USPTO issued 151,079 utility patents in 2005.

## Building global knowledge pipelines: The role of temporary clusters

DRUID (Danish Research Unit for Industrial Dynamics) Working Paper 05-20 compares temporary clusters with permanent clusters and other types of inter-firm interactions. The authors question why the phenomenon of permanent spatial clustering of similar and related economic activity is so pervasive. They conclude that knowledge transfer and other valuable interactions that occur in clusters can also take place under informal and temporary circumstances such as through conferences, conventions, and trade shows.

Reference: [Danish Research Unit for Industrial Dynamics](#)

## Is Apple considering an iPod phone?

Apple Computer's recent trademark applications hint that's where the company may be going, but Michael Gartenberg, an analyst with JupiterResearch, gave the speculation "low probability."

In early January 2006, the Cupertino, California-based company filed four trademark applications for the term "Mobile Me." The applications covered areas such as computer services, providing music over a local or global communication network, portable digital electronic devices and software, and telecommunication services.

Gartenberg said that since Apple currently holds about 75 percent of the market for digital media players, it would make more sense for the company to continue focusing on features and services for the current product line.

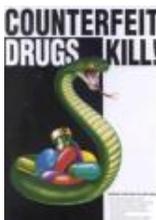
If Apple pursued a mobile phone, then it is more likely the company would work with a partner, such as Motorola or some other handset manufacturer.

Source: Information Week, 1/23/2006, p. 8.

For entire article, see: [Information Week](#)

## Anti-counterfeiting initiatives and RFID practices

The year 2005 was pivotal for pharmaceutical companies as far as anti-counterfeiting initiatives and more specifically, radio-frequency identification (RFID). The World Health Organization (WHO) estimates that as much as 10% of the half-trillion-dollar pharmaceutical market is counterfeit. The FBI estimates the impact on US companies is \$200–\$250 billion a year.



Awareness and concern about counterfeit drugs in the pharmaceutical supply chain reached its peak in 2004. According to an FDA report, the number of drug counterfeiting cases had increased dramatically, up from 30 in 2003.

While the US drug supply chain remains one of the safest in the world, Pharma companies large and small are taking action with anti-counterfeiting measures such as color-shifting inks, 2D barcodes and the high-powered weapon of RFID technology. In the last year, companies have initiated pilot programs and begun shipping RFID-tagged products. In the meantime, the FDA's zealous support of RFID has led to technological advances, increased awareness, and new business opportunities for vendors that provide the necessary tools.

- Purdue Pharma has enjoyed success with their RFID pilot with OxyContin.
- Pfizer is now using RFID on Viagra.
- GlaxoSmithKline will be shipping products (at least one) that contain RFID.
- West Pharmaceutical Services employs vial closures with incorporated RFID technology.

Yet overall, the adoption of RFID, particularly as an anti-counterfeiting tool, has progressed slowly in the pharmaceutical industry. There are still a lot of issues that need to be resolved. A critical piece is the development of standards around data exchange, numbering schemes, and tag frequencies.

Additionally, there is the cost factor. Although the price of tags has come down over the past year, implementation of the technology as a whole remains expensive. For example, Purdue spent \$2 million on infrastructure, and spends 30-35 cents a tag per unit.

Industry analyst firm IDC has predicted that, spurred on by the FDA recommendations, RFID adoption will increase rapidly in the pharmaceutical industry during the next three years. It's never a smooth path for implementing a new technology, but RFID's dual promises of increased security and efficiency should spur the industry to speed the process.

*The entire article by Kristin Brooks is available in the January 2006 issue of Contract Pharma ([www.contractpharma.com](http://www.contractpharma.com)).*

## Website of the Month

The website of the Engineering and Science Library at Queen's University (Kingston, Ontario) has published a very good compilation of resources on patents. Several site designs were inspired by the "quick study guides" that are sold in university bookstores. Included are compilations and other useful tips such as:

- How to Read a Patent
- Selected Patent Country Codes, Numbers and Kind Codes
- U.S. Patent Classification – Classes by Title
- U.S. Patent Number Guide
- Frequently Asked Questions in Japan, China and Korea
- Patent Classification Systems (e.g. U.S. IPC, ECLA)

"Classes by Title" is a compact list of class titles as of October 2005. The main group symbols that follow each title are based on the placement of the class/subclass in the "Classes Within the U.S. Classification System Arranged by Related Subjects," which is part of the Manual of Classification. The "Patent Number Guide" is compiled from numerous sources including the Manual of Patent Examining Procedure, Official Gazette, USPTO web site, and WIPO standards.

See: [Queens University](#)

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