

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Table of Contents

Japan	2
Korea	3
China	4
Taiwan	5
Singapore / Malaysia / Philippines / Indonesia	6
Hong Kong	6
United States / Canada	7
Europe	10

This document is provided for information purposes only, and constitutes neither investment advice nor the recommendation to purchase or sell securities of the companies named in this document. IRG Limited, f/k/a iReality Group Limited, and its affiliated companies, make no representation as to the accuracy or completeness of the information contained in this document. For more information on IRG call (852) 2237 6000 or visit www.irg.biz.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Japan

Hardware

- **Matsushita Electric Industrial Co. Ltd., maker of Panasonic brand products, unveiled a DVD recorder based on Blu-ray technology which can read and store data at the much higher densities needed for recording digital television programs.** The move gives Matsushita an edge in the battle against a rival technology supported by fellow Japanese electronics makers NEC Corp. and Toshiba Corp. The ability to record high-definition TV programs is becoming important as countries around the world are set to shift to digital from analog programming. Recordable DVD discs compatible with Matsushita's new recorder have a capacity of 25 or 50 gigabytes, compared with current 4.7 gigabyte discs. A 50-gigabyte disc can hold 4.5 hours of digital programming at the highest quality or 63 hours of analog programming.
- **Japan's Hitachi Ltd., Hitachi Maxell Ltd. and Shin-Kobe Electric Machinery Co. Ltd. they had formed a joint venture to make rechargeable lithium-ion batteries for hybrid cars.** The venture, aimed at tapping into the growing market for hybrid vehicles and valued at ¥1.5 billion (US\$13.89 million) is owned 43.7 percent by Shin-Kobe, 36.7 percent by Hitachi and 19.6 percent by Hitachi Maxell. Nickel metal-hydride batteries are currently used widely for hybrid cars, such as Toyota Motor Corp.'s Prius, but lithium-ion batteries have a higher energy density, making it possible to manufacture smaller and lighter products, said Hitachi, Japan's largest electronics conglomerate.
- **Smart-tag developer YRP Ubiquitous Networking Laboratory has developed a smart-tag reader that can be worn like a wristwatch.** The reader, equipped with a very small LCD panel, enables users to see information recorded on smart tags by simply holding products outfitted with the tags. Such products include beverage or pharmaceutical bottles. The research lab plans to license the technology to companies, aiming to develop practical applications within three years. The LCD panel measures 18 x 24mm. The device, which also has time and date display functions like a watch, weighs about 100 grams.
- **Sony Corp. will release a music player equipped with hard disk drives, which could rival Apple Computer Inc.'s iPod, this month in Japan.** The company said the newest Walkman, a palm-sized, aluminum-encased player that can store up to 13,000 songs on its 20-gigabyte, 1.8-inch hard drive, will hit stores in Japan on July 10, ahead of its release in the United States and Europe. The product, "NW-HD1," will likely to be more expensive than the similar iPod model with 20-gigabytes of hard disk. The new Walkman, which weighs about 3.8 ounces, is slightly larger than the 4-gigabyte iPod Mini, but smaller and lighter than the iPod's 15-, 20- and 40-gigabyte models.
- **Hitachi Ltd., Fujitsu Ltd. and Toshiba Corp. plan to raise their production of hard-disk drives, especially 2.5-inch and smaller units used in digital home electronics.** The companies aim to increase output of all drives by 30% to about 90 million units overall in fiscal 2004. But by increasing production of smaller units -- a market that these firms control -- they are attempting to shut out foreign manufacturers looking to expand in this area. Fujitsu plans to almost double its shipments of 2.5-inch hard drives to 14 million units in the current fiscal year. The major computer manufacturer will continue making 3.5-inch drives for information equipment such as servers, but it only plans to boost production of these devices by almost 1 million to 4.5 million.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Information Technology

- **Casio Computer Co. has successfully tripled the brightness of an organic EL (electroluminescent) display compared with existing versions**, putting it on a par with plasma televisions. A redesign of the structure of an amorphous-silicon-based display that uses polymers in a light-emitting layer increased emission efficiency by about 30%. As a result, the display's brightness was increased to 450 candelas per sq. meter -- three times that of existing models.

Mobile / Wireless

- **A new survey by a committee set up to examine problems facing Japanese juveniles has set alarm bells ringing by announcing that most children become uncomfortable when they are separated from their mobile phones.** The committee, which reported its findings to the National Police Agency, said children have become dependent on the technology. The survey of nearly 4,400 students at middle and high schools - including a number who had been questioned by police in connection with crimes such as shoplifting - revealed that nearly half do not even turn their phones off in bed. More than 36 percent of middle school students and more than 90 percent of high school pupils have their own mobile phones. In the country as a whole, there are more *keitai denwa* (portable phone) in circulation than there are regular land lines - 74.8 million mobiles to 50.7 million fixed lines - and the cut-throat nature of business means that makers are obliged to put out new cell phones within months of their last one hitting the streets

Korea

Information Technology

- **IBM opened a research and development laboratory in Seoul, where it plans to develop and standardize technical applications for telematics and embedded software.** IBM and the Ministry of Information and Communication will jointly invest up to US\$32 million over the next four years in the Ubiquitous Computing Laboratory, while sharing the intellectual property of future technical advancements. Government officials declined to comment on specifics of the management of intellectual property. IBM plans to employ 50 software engineers, including 25 from IBM's Korean branch, to conduct research activities. The ministry first reached a basic agreement with IBM to establish the laboratory last October.
- **The Korean government will ease regulations so that information-technology infrastructure can be fully utilized for corporate activities**, according to the Commerce, Industry and Energy Minister. The service sector would play a very significant role as a country develops, and therefore it is very important to create an environment in which to foster the knowledge-based industry. The government is making efforts to improve the business environment and the goal is to provide the best investment environment for foreign investors. Companies should be encouraged to invest more because more investment will lead to more production and exports, ultimately revitalizing the economy.
- **Korean companies need to take an aggressive approach in adopting RFID (radio frequency identification) technology to improve manufacturing and supply chain management**, according to a senior member of IBM's business consulting service. RFID is among the most advanced product-tracking technologies in use today, where microchips - called smart tags - attached to products broadcast the information on an item by radio frequency once it nears a reader. The technology is designed to

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

improve profitability for manufacturers and retailers by providing quick and accurate information in product management, while also improving inventory control and warehouse efficiency.

Internet

- **Daum Communications Corp.'s planned investment in a Japanese online venture is expected to have a positive impact on Korea's largest Internet portal.** The capital investment is an attempt to secure a beachhead on the Japanese online community sector. Daum will invest 8.7 billion won (US\$7.5 million) in Taon Corp. to take a 65 percent stake.

Mobile / Wireless

- **KT Freetel Co. started a new global positioning system-based service that informs subscribers of the location of their vehicles via mobile phone.** The service, named Searchon, enables customers to monitor the location of their cars through the Internet and send text messages to mobile phones when the car is moving, such as if it is towed away or stolen. Subscribers are also required to buy a receiver device to install in their cars. KTF controls 32.7 percent of the country's 35 million mobile-phone users.

Semiconductors

- **A state-run South Korean bank would positively study a plan by Hynix Semiconductor to build a joint microchip plant in China with Europe's STMicroelectronics.** The world's third-largest memory chip maker proposed a US\$1.5 billion plant in China last month when it sealed a deal to sell its non-memory chip operations to U.S. financial giant Citigroup for 954 billion won (US\$829 million). But some creditors led by Korea Development Bank had opposed the project, citing the weak financial structure of Hynix, which was rescued last year with a bailout package.

Telecommunications

- **South Korea's SK Group planned to invest more than US\$8 billion in information and telecommunications business over the next three years.** The conglomerate which controls South Korea's largest mobile carrier SK Telecom said the major investment plan was aimed at maintaining its leadership in the sector and promoting growth. The initiative would focus on "platform business" whereby it seeks all the relevant business areas encompassing service, equipment and content. Much of its resources would go to the new satellite digital broadcasting business where customers could watch TV programs on their mobile handsets. It added it would expand its own research on service and equipment sectors, while fostering collaborative work with partners on developing programs. SK Telecom has 18 million subscribers, 54 percent of South Korea's total mobile communications market.

China

Information Technology

- **China has issued new regulations on the filtering of mobile phone short text messages in a move that expands its censorship controls over wireless technologies and the Internet.** The "Self-Discipline Standards on Content in Mobile Short Messaging Services" were issued recently and are aimed at weeding out pornographic, fraudulent and illicit messages. The standards provide the framework for China Mobile to contract out the policing and filtering of short messages for content deemed unhealthy or fraudulent. So far 10 such companies have begun the policing work in 20

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

categories of content that are spelt out in an earlier agreement or "treaty" on content between the government and Internet Service Providers. China maintains some of the toughest Internet regulations in the world and has reportedly up to 30,000 people policing the Internet for subversive political content and pornography.

Mobile / Wireless

- **Sony Ericsson Mobile Communications AB and its China unit said they have taken majority control of their joint-venture mobile-phone plant in Beijing for US\$15 million.** The move comes as Sony Ericsson executives stressed China's importance in the company's shift to the black and its continued growth, following its third consecutive quarter of profit in the first three months of this year. Sony Ericsson bought a 25% stake, while its Sony Ericsson Mobile Communications unit in China raised its stake to 26% from 10%, resulting in a combined 51% shareholding in the facility.
- **Mobile phone value-added services providers have scored big with content catering to the mainland's mania for European football.** Tom Online says it has attracted "tens of thousands users" to its interactive voice-response services, which provide soccer coverage in co-operation with broadcasters in Guangdong, Sichuan, Wuhan and Zhejiang provinces. Meanwhile, a service from LingXun Interactive Science Technology and Development allows football fans to send text messages to CCTV-5, which then posts their views on its website or reads them aloud on air. LingXun, based in Beijing, is one of the mainland's top 10 providers of mobile value-added services. The company has an exclusive deal to provide mobile content for CCTV-5, the nationwide sports channel which has live broadcast rights to European Premier League games and reaches as many as 60 million viewers. As part of its services, soccer fans can receive game results and highlights via short text messages.
- **China was mulling over plans to merge up to six of its telecommunications carriers at the parent level to resolve its long-delayed third-generation (3G) mobile licensing program.** The State Council and the state-owned Assets Supervision and Administration Commission (SASAC) - the ultimate controlling shareholders of China's telecom groups - were reviewing two proposals. In one, China Mobile Communications Group would be merged with fixed-line operator China Network Communications Group and China Telecommunications Group with China United Telecommunications Group. The other plan involved merging China Mobile with China Satellite Communications, China Network with China United and China Telecommunications with China Railway Communications.

Software

- **Microsoft agreed to establish a global strategic tie-up with Digital China Holdings, a information technology distributor and software company.** Digital China said the companies had signed a memorandum of understanding to work together in various fields, including software technician training, research and development, and the design of industry solutions products. Microsoft has been ramping up efforts to consolidate its position in the huge Chinese market and over the past four years has opened three joint ventures. After the deal, Microsoft and Digital China will jointly research and develop software applications to a number of sectors in China, involving customs, telecommunications and taxation system processes.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Taiwan

Information Technology

- **Taiwan began digital television broadcasts across the island as part of efforts to make a "digital Taiwan".** Following a trial period, five wireless television stations adopting Europe's DVB-C standard began transmitting the digital service on as many channels. Yu drew a rosy picture for the digital TV sector which provides programs featuring "free, mobile and good quality". Traditional analog television uses radio wave signals but digital TV has uses the language of computers, allowing for sharper pictures and better sound quality. The government hoped to do away with existing analog broadcasts by 2006.

Singapore / Malaysia / Philippines / Indonesia

Media, Entertainment and Gaming

- **Singapore's Soundbuzz re-launched its digital music store with an expanded catalogue of more than 250,000 songs in a fresh attempt to capture the burgeoning demand for online music.** Soundbuzz, which claims to be the largest digital music provider in the Asia-Pacific region, said its updated catalogue included songs from the five biggest labels in the world with Sony, Warner and Universal agreeing to come on board. Previously, it only had EMI and BMG along with smaller independent labels such as Edel and Diva Records. It will initially be available only to Singapore residents but Soundbuzz has plans to expand to regional markets such as Hong Kong and India by the end of the year. Each song would retail at S\$2 (US\$1.2), while an album would cost S\$16.5 (US\$9.6). American portals such as the popular iTunes cannot be accessed by Singaporeans because of territorial restrictions.

Semiconductors

- **Nortel Networks Corp. agreed to sell most of its remaining manufacturing operations to Flextronics International Ltd., in an accord valued at between US\$675 million and US\$725 million.** Nortel and Flextronics, an electronics company based in Singapore, in January said they were in talks about such an arrangement. The transaction includes between US\$475 million and US\$525 million of Nortel's inventory and equipment, and US\$200 million of intangible assets related to design.

Hong Kong

Hardware

- **A research and development unit of the Hong Kong University focused on solving e-business problems has developed middleware software that will make mobile messaging a simple-to-use and inexpensive business tool for small businesses in Hong Kong.** The mobile messaging platform software developed by the E-business Technology Institute (ETI) uses SMS and MMS on the application level, while integrating the different standards and protocols deployed by Hong Kong's six mobile network operators. ETI's new middleware eliminates the costs for routing and enables responses to be matched automatically and instantly. The software is also able to transform, resize and match the formats of multimedia messages to different mobile handsets instantly.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Mobile / Wireless

- **The Office of the Telecommunications Authority (OFTA) hopes to repeat this success in mobile data services.** The competition in Hong Kong's mobile phone sector has been good for consumers. Thanks to inexpensive voice tariffs, the market penetration rate is 106 percent, among the highest in the world. Hong Kong users are also talkative, talking an average of 570 minutes a month, compared with just 166 minutes in Japan. As the result of a price war waged by the six voice operators, consumers have saved more than US\$70 billion between 1996 and 2002. To promote competition and spur demand, the agency proposes a fifth third-generation mobile phone license. Not surprisingly, the city's present 3G license holders - who pay for inexpensive voice plans with lower profit margins - are reluctant to fight another round. They say a fifth player will create too much competition in a market where economies of scale are difficult to achieve, inhibiting investment in new services at the expense of the consumer.

Telecommunications

- **PCCW claims it won the latest legal battle with the Office of the Telecommunications Authority (OFTA) over the government's broadband interconnection policy and expects the watchdog to pay its court costs.** Following last week's ruling, OFTA declared itself the victor after the court upheld its right to mandate interconnections. However, the fixed-line operator pointed to language in the ruling which described as "unlawful" OFTA's May 2002 order forcing PCCW to lease its network to rival Wharf. PCCW also accused OFTA of mischaracterizing the result to lead policymakers and the Executive Council astray.

United States / Canada

Hardware

- **Apple Computer Inc. previewed the latest version of its Mac OS X operating system code-named called Tiger.** Apple also introduced a 30-inch flat panel display in a sleeker and trimmer housing, its largest display yet, which adds to the 20-inch and 23-inch displays it already offers. That puts it up against other PC companies that sell large flat panels, such as Dell Inc. and Hewlett-Packard Co. Apple, best known for its sleek Macintosh computers and the popular iPod digital music players, last updated the Mac OS X in October 2003 with version 10.3, code-named "Panther."

Internet

- **Affinity Engines Inc. filed suit accusing Google Inc. of misappropriating trade secrets and unfair competition over Google's Orkut social networking site.** Affinity Engines said in its complaint that a Google software engineer copied and used software code from its inCircle product in creating the Orkut social networking site for Google. The engineer co-founded Affinity Engines, whose software is used by universities to link alumni, in August 2002. Social-networking sites tie people together through mutual friends or interests. Orkut was launched in January.
- **SportsLine.com Inc., one of the first companies to build a business around providing content on the web, has received an offer from media conglomerate Viacom Inc. to buy the balance of its stock for about US\$42.6 million.** SportsLine has been openly shopping itself around since mid-May. The offer of US\$1.5 a share from Viacom, which currently holds about 38% of the online-sports company, represents a premium of 39% on SportsLine's closing price.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

- **InteractiveCorp won a round in a lengthy battle with French media and telecommunications giant Vivendi Universal SA when a Delaware court ruled in favor of it in a tax dispute with Vivendi.** The court agreed that InterActiveCorp, owner of Ticketmaster and websites such as Expedia, was entitled to US\$620 million in tax-related payments from Vivendi. The payments were related to InterActiveCorp's minority stake in an entertainment concern, Vivendi Universal Entertainment, which was until recently controlled by Vivendi.
- **Online marketplace eBay Inc. wants to grow by expanding its existing businesses rather than by making new acquisitions,** and integrate recent purchases such as its PayPal online payments unit. eBay which bought Indian online auctioneer Baazee.com last week for about US\$50 million, is already present in almost all the important e-commerce markets. eBay intended to establish a trading platform for Japan after withdrawing from that market two years ago in the face of Yahoo! Japan's dominance. Yahoo! Japan is controlled by Yahoo! Inc. and partner Softbank Corp. eBay, which has some 105 million registered clients and receives up to 6,000 new advertisements a second at peak times, aims to establish a worldwide e-commerce network.
- **Overture Services Inc., a unit of Yahoo! Inc., launched a local version of its web search advertising service, taking its battle with search rival Google Inc. into a new market.** Called "Local Match," the service allows small and regional businesses such as dentists, dry cleaners and auto dealers to advertise on web search engines by paying to link their ads to key words, with prime rankings on a user's search commanding higher prices.
- **Microsoft Corp. rolled out a revamped version of its MSN web search service with partner Yahoo! Inc. and made an early test version of its homegrown search engine available to webmasters and search enthusiasts.** Microsoft, whose launches come amid a frenzied battle for Internet search offerings, came late to the web search race but over the past year has made the emerging market a top priority. It said its new streamlined MSN offering, which strips out some paid advertising, would rival that of web search leader Google Inc. Microsoft said the changes to MSN search represent a US\$100 million investment including the value of foregone ad revenue, research and development and marketing.

Media, Entertainment and Gaming

- **Acclaim Entertainment Inc. said failure to get a new banking facility could lead the video game publisher to cease operations or seek bankruptcy protection.** Last month, the company had reached an agreement with its lender, GMAC Commercial Finance, to extend its credit agreement to Aug. 4. Acclaim has a letter of intent for a US\$30 million credit facility with a new lender to replace the GMAC facility, but the deal has not yet been completed.

Mobile / Wireless

- **Verizon Wireless agreed to acquire Qwest Communications International Inc.'s wireless licenses and other assets in 14 states for about US\$418 million in cash.** The deal, which covers Qwest's PCS licenses and network assets but not customers, will not affect new or existing Qwest wireless subscribers. Qwest will continue to offer wireless service under the Qwest brand through its wholesale agreement with Sprint PCS Corp. Most of the licenses are being purchased in markets where Verizon Wireless already offers service. The deal will also give the company access to several new markets. The transaction includes Qwest's network switching centers, cellular towers and all related equipment, which operate on the CDMA standard, the same standard Verizon uses on its network.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

- **Texas Instruments Inc. said a Delaware court had indicated that rival wireless chip maker Qualcomm Inc. would not be entitled to cancel TI's rights to use Qualcomm's patented technology.** But the Delaware Chancery Court also ruled out Texas Instrument's contention that Qualcomm had violated a patent licensing agreement between the two wireless chip makers by granting royalty discounts to certain mobile handset makers. Texas Instruments said the court had sided with its contention that the disclosure of the terms of a technology patent license agreement with Qualcomm had not been a material breach of confidentiality.

Software

- **Microsoft Corp. offered a stopgap measure to protect computers using its Windows operating software from a data-stealing program that infected web surfers last week.** The company is continuing to develop a comprehensive security fix. Microsoft is providing a configuration change for Windows XP, Windows Server 2003, and Windows 2000 operating systems that improves system resiliency and protects against this and other attacks. The change is available at Microsoft's online Download Center. The change will be automatically distributed later to customers who have signed up for its Windows Update service. The update alters Windows settings but does not fix the security hole in the Internet Explorer browser that was exploited by the program, a Trojan horse known as "Download.Ject."
- **IBM felt threatened enough by Oracle Corp.'s bid for PeopleSoft Inc. that it recommended acquiring so-called middleware software companies and taking "blocking" stakes in applications vendors.** IBM is "exposed to potential consolidation" in the applications market and needs to "establish more control over acquisitions," says the review, conducted only days after Oracle announced its unsolicited tender offer in June 2003. Fearful that a partnership with PeopleSoft could dissolve if the software vendor is swallowed by Oracle, the IBM document urges the company to nurture new relationships with applications companies and encourage their dependence on IBM. The analysis also says IBM should lobby government regulators, customers and other "influencers" to oppose concentration in the market.
- **Sun Microsystems Inc. will roll out major enhancements to its developer tools for the Java programming language and will contribute next-generation computing desktop technologies to the open-source community.** The moves are aimed at broadening the use of Java, a programming language used to create applications that can run on computers using different operating systems and microprocessors such as Sun's Ultrasparc and Intel Corp. -compatible chips. Sun will make the announcements at its JavaOne conference.

Telecommunications

- **As part of an inquiry that now stretches across the telecommunications industry, the Securities and Exchange Commission has asked Comcast Corp. and Cox Communications Inc. for information about how they measure one of their most prized assets -- subscribers.** Verizon Communications Inc., the nation's largest telecommunications company by revenue, said in an SEC filing that it had overstated its long-distance phone lines by 8.5% in the first quarter. A day earlier, the company confirmed to The Wall Street Journal that it, like at least 20 other companies, had received a letter from the SEC asking it how it counts subscribers, in an apparent effort to determine whether it had taken steps to bolster the appearance of growth.

IRG Technology, Media and Telecommunications and Life Sciences Weekly Market Review



Week of 28 June - 4 July 2004

Europe

Mobile / Wireless

- **Virgin Mobile Telecoms Ltd. intends to list shares in its U.K. business on the London Stock Exchange before the end of July.** The company is expected to list with an enterprise value of £1.1 billion to £1.2 billion (US\$2 billion to US\$2.2 billion), which includes debt, a person close to the situation said. The U.K. business's customer base expanded by 250,000 customers in the first quarter to 4.1 million customers. Virgin Mobile U.K., formed in 1999 as a joint venture between Virgin Group and Deutsche Telekom AG's T-Mobile unit, operates as a virtual network, meaning it leases capacity from other operators to offer services to customers under its own brand.
- **Orange would launch third generation (3G) mobile telephone services in Britain on July 19, though customers will have to wait until later this year for the new handsets.** The first 3G product to hit the market from Orange will be a data card, aimed at business customers, offering high-speed Internet access for laptop computers. Orange would launch the new 3G handsets in Britain and France later in the year, offering video calling and messaging, naming SonyEricsson and SKorea's LG as suppliers. The network will initially cover 66 percent of the population in Britain.

Telecommunications

- **BT Group PLC turned the heat up on its competitors, announcing deep cuts to the price of its consumer broadband Internet services** in the U.K. Britain's former telecommunications monopoly cut the cost of its popular BT Yahoo! 512K service 10% to £26.99 (US\$49) a month. The company is continuing to offer free connection and a modem when bought online. The market for broadband in the U.K., as in the rest of Europe, has seen red-hot competition. Among those putting on the pressure have been Tiscali SpA, which is offering a basic 512K service, although many of the cheaper services place some restrictions on the amount of data transferred.

This document is provided for information purposes only, and constitutes neither investment advice nor the recommendation to purchase or sell securities of the companies named in this document. IRG Limited, and its affiliated companies, make no representation as to the accuracy or completeness of the information contained in this document.