

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



Week of 21 December - 27 December 2003

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Equity Market Indicators					
Index	Closing Level (12/26/03)	% Change 1 Week Ago	% Change 1/1/2003	% Change 1/1/2002	% Change 2002 Low
S&P 500	1,095.89	0.6%	24.6%	-5.1%	40.8%
Dow Jones Industrial Avg.	10,324.67	0.7%	23.8%	2.5%	41.4%
Dow Jones Tech. Index	342.03	1.2%	48.9%	1.4%	88.6%
Dow Jones Telecom. Index	181.55	0.9%	22.8%	-12.9%	55.6%
NASDAQ Composite	1,973.14	0.9%	47.7%	-0.3%	76.8%
The Street.com Net	151.99	3.2%	77.4%	-22.3%	144.2%
Japan Nikkei 225	10,417.41	3.1%	21.4%	-4.2%	24.8%
Japan TOPIX	1,018.47	2.3%	20.8%	-3.4%	24.2%
Korea KOSPI Composite	788.85	-2.3%	25.7%	8.8%	35.7%
Korea Kosdaq	43.25	-6.1%	-2.5%	-41.9%	-1.3%
Taiwan Stock Exchange	5,857.21	1.7%	31.6%	4.6%	52.0%
Singapore Straits Times	1,730.23	0.9%	29.0%	6.4%	29.6%
Hong Kong Hang Seng	12,456.70	-0.5%	33.6%	9.7%	40.2%
Hong Kong GEM	1,168.68	-2.1%	23.0%	-38.6%	29.2%
China Shanghai (A-Share)	1,587.68	4.8%	11.9%	-5.3%	15.0%
China Shenzhen (A-Share)	399.28	3.8%	-2.6%	-18.5%	2.0%
China Shanghai (B-Share)	106.35	1.7%	-6.3%	-37.1%	-5.1%
China Shenzhen (B-Share)	274.93	2.7%	47.0%	5.1%	48.4%

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Technology, Media, Telecommunications and Life Sciences Market Activity

Asian Markets: TMT and Life Sciences Convertibles

Issuance Date	Issuer [Equity Ticker]	Description of Issuer	Maturity Date	Size (US\$MM)	Per US\$10,000 converts to	Convertible Until
12/21/03	Pacific Image [6228.TT]	Designs, manufactures, and markets desktop color image peripheral products, such as optical scanners.	12/21/08	US\$7.1	1,957 Shares	12/11/08
12/22/03	Acorp Intl. Corp. [5497.TT]	Develops, manufactures, and markets computer motherboards, networking interface cards, and memory devices.	12/22/08	US\$5.5	31,338 Shares	12/7/08
12/22/03	Topro Technology [6236.TT]	Designs, develops, and manufactures integrated circuits (ICs). The company's products include liquid crystal display (LCD) driver ICs, LCD monitor controller ICs, keyboard controller ICs, mouse controller ICs, VGA controllers ICs, and consumer products ICs.	12/22/08	US\$8	14,353 Shares	12/7/08
12/23/03	Willtech Inc. [039390.KS]	Specializes in manufacturing telecommunications field engineering and testing equipment. The company also produces code division multiple access (CDMA) traffic information systems, and wireless Internet security devices.	12/23/06	US\$3.3	1,309 Shares	12/22/06
12/23/03	Mobile One [036610.KS]	Specializes in providing network system integration products to Korean companies. Also creates and markets game content, commercial content, and Internet shopping content.	12/23/06	US\$2.2	828 Shares	11/23/06
12/23/03	Cybertan Technology [3062.TT]	Develops and sells equipment for broadband (BB) networks. Products include: BB cables, digital subscriber line (DSL) routers, wireless access point routers, and ADSL (asymmetric Digital Subscriber Line) Routers.	12/23/08	US\$100	6,829 Shares	12/3/08
12/23/03	Career Technology [6153.TT]	Manufactures and markets flexible printed circuits (FPCs) and printed circuit boards (PCBs), including single and double sided access, and multi-layered types.	12/23/08	US\$35	6,543 Shares	11/23/08
12/24/03	Chant Sincere Co. Ltd. [6205.TT]	Manufactures and markets connectors. Products include: digital terminal connectors, memory card connectors, future Bus and compact PCI connectors, and various peripheral connectors.	12/24/08	US\$5.9	764 Shares	12/14/08
12/25/03	Unitech Electronics Co. Ltd. [2414.TT]	Manufactures and designs personal computers and computer peripherals. Products include: hand held scanners, decoders, and portable data collectors.	12/25/08	US\$11.7	19,458 Shares	12/15/08

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NASDAQ/NYSE TMT and Life Sciences IPO Filings						
File Date	Issuer	Industry Sector	Size (\$MM)	Description	Book-Runner	Co-Manager
N/A						

NASDAQ/NYSE Equity Markets: TMT and Life Sciences IPO Pricing						
Pricing Date	Issuer (Exchange)	Description	Size (US\$MM)	Offer Price	Price on 12/26/03	% Change From Offer
N/A						

Asian Equity Markets: TMT and Life Sciences IPO Pricing						
Pricing Date	Issuer (Exchange)	Description	Size (US\$MM)	Offer Price	Price on 12/26/03	% Change From Offer
12/22/03	Okamoto Glass Co. Ltd. [7746.JP] (JASDAQ)	Manufactures special purpose glass for industrial use. Products include: crystallized glass for reflectors and multiplayer thin film for optical communication.	US\$16.1	¥680	¥1,220	79.4%
12/24/03	Shenzhen Kingdom Technology [600446.CH] (Shanghai)	Develops and markets financial security software. Also provides computer system integration and system maintenance service.	US\$28.5	RMB 13.1	RMB 16.2	23.6%
12/25/03	Sitronix Technology Corp. [8016.TT] (Taipei)	Designs memory control unit (MCU), integrated circuits (ICs), and liquid crystal display (LCD) driver ICs.	US\$7.8	NT\$98	NT\$111.5	13.8%

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Weekly Highlights

International

Information Technology

- **Demand for Internet bandwidth is expected to reach 1,000 gigabytes per second (Gbps) by 2007 from 140 Gbps last year, as the volume of Internet traffic to Asia grows**, according to Gartner. This should help reduce some of the pressure on wholesale bandwidth prices, which have fallen between 33 and 67 percent in Asia this year due to overcapacity and fierce competition in the sector. The growing popularity of online gaming is also driving demand.

Mobile / Wireless

- **Incompatibility problems between existing GSM systems and 3G phones could add to 3G users' frustration as some operators drag their heels on network upgrades.** The last thing mobile-phone operators want is more bad publicity for 3G, the next-generation mobile-phone service that allows high-speed data downloads and video calling but has yet to win many converts.

Japan

Hardware

- **Matsushita Electric Industrial Co. is considering an investment of about ¥130 billion (US\$1.2 billion) to build a new advanced plant to make system chips for digital electronics products.** Matsushita is considering building a new plant to make chips using 300-millimeter wafers which enables more efficient production than on 200-millimeter wafer lines. The new line would be for system large-scale integrated circuits, or LSIs, for its core digital products such as flat-screen television sets, DVD recorders and mobile phones.

Mobile / Wireless

- **NTT DoCoMo Inc. plans to contribute ¥37 billion (US\$344.3 million) to six manufacturers of 3G (third-generation) FOMA devices to help defray their swelling development costs** over a two-year period ending March 31, 2006. By shouldering a portion of the burden for NEC Corp., Panasonic Mobile Communications Co., Fujitsu Ltd., Mitsubishi Electric Corp., Sharp Corp. and Motorola Japan Ltd., the mobile phone giant aims to accelerate development of advanced FOMA handsets. While much of the funding is currently allocated to the development of FOMA devices, the focus over the next two years is expected to shift to software development.

Semiconductors

- **Fujitsu Ltd. and Sumitomo Electric Industries Ltd. have agreed to integrate part of their advanced semiconductor device operations and form a 50-50 joint venture.** The joint venture, which the two firms aim to launch April 1, will develop, manufacture and sell compound semiconductor devices. Such products are used in equipment such as base stations for mobile-phone networks, which require chips with extremely fast processing speeds. The venture will aim to book about ¥30 billion (US\$279.5 million) in sales in its first year of operations.

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Software

- **NEC Corp. has developed a system to automatically detect errors in website links.** The system can more efficiently detect such errors than computer engineers, who must examine the links one by one. The company is considering marketing the system from fiscal 2004 for use mainly in e-commerce sites and corporate homepages.

Telecommunications

- **Nippon Telegraph and Telephone Corp. will launch by next fall an inexpensive videoconferencing service that uses fiber-optic lines to deliver television-quality images.** The service will link up to five locations with TV-quality video images at 30 frames per second. Features will include the ability to share data and switch to one-on-one conferencing.

Korea

Hardware

- **Reigncom Ltd., the world's largest MP3 music player maker, expects a record profit this year.** The company expected to post 42.5 billion won (US\$35.4 million) in net profit for all of 2003, up to 4 times higher than last year. Sales probably have jumped 187 percent to a record 230 billion won (US\$191.7) from a year earlier.

Media, Entertainment and Gaming

- **Korean exports of MP3 players increased by 44.2 percent in the first 10 months of the year.** Shipments of the product in the January October period stood at US\$128 million (1.5 billion won), compared with US\$88.9 million in the same period last year, according to the officials at the Electronic Industries Association of Korea. Shipments to Asia accounted for US\$62 million, with Europe and North America accounting for US\$33.9 million and US\$28 million, respectively.

China

Hardware

- **Samsung Electronics Co. announced that it set up a research and development center in Suzhou, China,** as the company aims to expand its Chinese market to make it the second-largest cash cow after the United States. Samsung Electronics Device Solutions Network Business laid the foundations for the Semiconductor 3 Line and China R&D center in Suzhou during a ceremony attended by Lee Yun-woo, president of Samsung Electronics DSNB, and Wang Min, Party Secretary of Suzhou. The Semiconductor 3 Line is devoted to manufacturing memory chips and aims to boost monthly production to more than 40 million chips by the end of next year.

Media, Entertainment and Gaming

- **China is launching a crackdown on piracy of Internet-based games, saying violators are threatening to ruin a promising US\$250 million-a-year industry.** The effort is aimed at shutting down websites that offer games without paying their creators or offer software to cheat at popular multiplayer games. China has the world's second-largest population of Internet users, with 78 million people reportedly online. Revenue for its Internet game makers are expected to double this year to two

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billion yuan (US\$250 million). Games also are estimated to create an additional US\$1.4 billion in business for telecommunication firms and other industries.

- **Sony Corp. postponed the launch of the new version of its PlayStation 2 videogame console in China.** Two days after the planned release date, a statement on Sony's Chinese-language website blamed an "unfavorable environment" for the delay. It did not elaborate or set a new launch date. Makers of popular console games such as Sony and Nintendo have been wary of launching products in mainland China, despite huge potential demand, largely because of fears of piracy.

Mobile / Wireless

- **China Unicom will launch a new GSM/CDMA dual mode voice and data mobile telecom service in Beijing, Shanghai and Guangzhou in mid-2004.** The decision to launch the new service followed the success in testing of its GSM1x technology recently in Suzhou. The new service would be launched under the brand Worldwide Wind and would hopefully help spur growth in China Unicom's subscriber base.

Semiconductors

- **Shanghai Belling, a Chinese chipmaker, plans to buy a stake in a local chip firm that is partly owned by Japan's NEC in order to help it build an eight-inch wafer fab.** Belling aimed to spend about US\$86 million to own at least 11 percent of Shanghai Huahong NEC Electronics. After Belling's stake purchase, Huahong NEC would take over the construction of the wafer fab.

Taiwan

Semiconductors

- **Taiwan Semiconductor Manufacturing Co filed a U.S. lawsuit alleging patent infringement and theft of trade secrets by Shanghai-based rival Semiconductor Manufacturing International Corp.** The suit highlights how China's rapid industrial development is triggering a growing number of legal disputes between its companies and their more established foreign competitors over intellectual-property rights.

Singapore / Malaysia / Philippines / Indonesia

Mobile / Wireless

- **Philippine Long Distance Telephone (PLDT), under pressure to sell shares in wholly owned mobile unit Smart Communications, would not sell more than a 30 percent stake.** The stake is estimated to be worth as much as US\$600 million. The sale raises concern that investor will only invest in Smart and neglect the parent PLDT. PLDT has been relying on Smart-- its mobile-phone business-- for earnings growth as the number of subscribers for its fixed lines stalls.

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United States / Canada

Internet

- **Amazon.com Inc. had its busiest holiday shopping season ever.** The online retailer set a new record with more than 2.1 million items ordered in one day. On its busiest day, the site shipped more than one million packages, and more than 70,000 electronic gift certificates were ordered on Christmas Eve.
- **A surge in online holiday shopping is expected to push Internet retail sales for 2003 above the US\$100 billion mark for the first time.** Forrester Research is projecting a strong shopping season for the year-end holidays - up 42 percent from last year - will push Internet sales to this new milestone. Forrester estimated that 2002 online sales hit US\$76 billion, up 48 percent from the previous year.
- **India's filmmakers are offering Internet movie downloads on Kazaa in a move that could lower costs and boost revenues for Bollywood.** Some 35 producers will be able to sell movies using Kazaa, a file-sharing program owned by Australia's Sharman Networks Ltd. Only about 10 million of India's one billion people are Internet users. However with another 20 million Indians overseas, the Internet could become a worldwide box office for Bollywood.
- **Salesforce.com Inc. will seek to raise US\$115 million in an initial public offering** in which investors will weigh its success in offering software as a subscription service against increased competition from the industry's heavyweights. Salesforce.com is emphasizing an important distinction from dot-com-era offerings -- profits.

Media, Entertainment and Gaming

- **Video game publisher Mythic Entertainment has filed suit against Microsoft Corp. for trademark infringement over an upcoming Microsoft game that Mythic claims unfairly trades on its name.** Mythic is best known for subscription online role-playing games like "Dark Ages of Camelot." Mythic said the forthcoming Microsoft PC game "Mythica" infringes on its trademark and could cause confusion among consumers.

Mobile / Wireless

- **Cingular Wireless wants to make an initial public offering next year to help fund expansion.** Cingular is also exploring a merger with or acquisition of AT&T Wireless Services Inc. It is not clear what stage Cingular's plans have reached. Such a move would mark the onset of a long-expected consolidation of the U.S. wireless industry, splintered among six national companies.

Semiconductors

- **Micron Technology Inc. reversed a year-earlier loss amid a surge in revenue.** The firm reported net income of US\$1.1 million for its fiscal first quarter ended Dec. 4, compared with a loss of US\$315.9 million in the same quarter last year. Revenue rose 62% to US\$1.1 billion from US\$685.1 million in the year-earlier period.

Software

- **Microsoft Corp. agreed to pay US\$60 million to settle a patent infringement lawsuit with Imagexpo,** a unit of SPX Inc. Imagexpo sued Microsoft in October 2002 over the NetMeeting Whiteboard feature in several Microsoft products. Last month, a jury awarded Imagexpo US\$62.3

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million in compensatory damages, after finding that Microsoft had infringed on one of its patents related to real-time conferencing.

Telecommunications

- **Verizon Communications Inc. agreed to pay MCI US\$169 million to settle a long-standing dispute over a type of network-connection fee.** At issue in the dispute was whether Verizon should pay MCI so-called reciprocal compensation on phone calls by Verizon customers to Internet-service providers that are MCI customers. Since 1997, MCI has argued that Verizon should pay such fees on those calls; Verizon had balked. The settlement resolves a slew of cases in state and federal courts as well as proceedings before the Federal Communications Commission and elsewhere.

Europe

Information Technology

- **Investment banks are making bold predictions that as many as a dozen European companies will go public in 2004, ranging from software and Internet to mobile phone firms.** The successful initial public offering (IPO) of Scotland's Wolfson Microelectronics, trading some 33 percent above its October issue price, has helped make bankers confident there is pent-up demand for new technology stocks. A recent buying frenzy of Chinese dot-coms and the speculation surrounding the IPO ambitions of Internet search engine Google and wireless operator Cingular has only upped the ante.

Media, Entertainment and Gaming

- **An appeals court upheld the acquittal of a Norwegian man charged with piracy for releasing a program that could crack DVD security codes.** Prosecutors had appealed Jon Lech Johansen's January acquittal of charges he violated Norway's data break-in laws with his DeCSS program.

Mobile / Wireless

- **Handset sales in Europe climbed in October and November, putting the region in position to have a very strong fourth quarter,** according to data from research firm GfK Holding AG. GfK reported handset sales surged 14% in October and November compared with the same time last year.

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Other Economic Data

Currency Exchange Rates						
Currency	Units	Current Rate (on 12/26/03)	% Change 1 Week Ago	% Change 1/1/2002	% Change 1/1/ 2003	% Change Last 12 Mth.
Japanese yen	¥/US\$	107.4550	0.3%	-18.4%	10.5%	11.6%
Hong Kong dollar	HK\$/ US\$	7.7647	0.0%	-0.4%	0.4%	0.4%
Chinese renmenbi	RMB/ US\$	8.2768	0.0%	0.0%	0.0%	0.0%
Singapore dollar	S\$/ US\$	1.7055	0.2%	-7.7%	1.7%	1.8%
South Korean won	KRW/ US\$	1199.8500	-0.8%	-8.7%	-1.2%	-0.2%
New Taiwan dollar	NT\$/ US\$	34.0520	0.0%	-2.7%	1.7%	2.0%
Australian dollar	US\$/A\$	0.7419	0.8%	45.6%	32.1%	32.2%
New Zealand dollar	US\$/NZ\$	0.6463	0.2%	55.3%	23.2%	24.3%
Philippine peso	PHP/ US\$	55.5300	-0.3%	7.5%	-3.5%	-4.0%
Euro	US\$/€	1.2429	0.4%	39.7%	18.5%	19.0%
British pound	US\$/£	1.7711	0.3%	21.9%	10.0%	10.4%

Fixed Income Prices and Yields

Note	Currency	Current (on 12/26/03)		1 Week Ago		4 Weeks Ago	
		Price	Yield	Price	Yield	Price	Yield
US 30-year	US\$	106.0000	4.97%	106.0625	4.97%	104.4688	5.07%
Japan 30-year	¥	103.7570	1.99%	103.0115	2.03%	102.7620	2.04%
Hong Kong 10-year	HK\$	121.3658	3.49%	121.9480	3.41%	120.8367	3.63%
China (10/2027)	US\$	137.3172	4.84%	137.5074	4.83%	136.1485	4.91%
Singapore 10-year	S\$	88.3640	3.71%	88.4550	3.70%	86.2560	3.99%
South Korea 10-year	US\$	120.8048	3.60%	120.8539	3.60%	119.9317	3.87%
Australia 15-year	A\$	105.9330	5.67%	105.9830	5.67%	103.9950	5.94%
New Zealand (07/2009)	NZ\$	105.3260	5.86%	105.4645	5.84%	103.9697	6.15%
Philippines 20-year	PHP	153.5146	11.51%	152.1533	11.63%	148.0033	12.01%
India 20-year	INR	154.4502	5.57%	152.9020	5.69%	152.3284	5.73%
UK 30-year	£	93.4420	4.66%	93.9971	4.63%	90.7751	4.85%
Germany 30-year	€	109.0470	4.89%	108.0767	4.95%	106.6446	5.04%

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