

ASIA IS A BUSINESS IMPERATIVE... NOW MORE THAN EVER

# ASIAN TECHNOLOGY NEWSLETTER

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A bimonthly newsletter of developments in the computer, semiconductor, and telecoms industries

## CONTENTS

INTRODUCTION .....	1
CHINA/HONG KONG .....	1
INDIA .....	2
JAPAN .....	2
KOREA .....	3
MALAYSIA .....	3
PHILIPPINES .....	3
SINGAPORE .....	4
TAIWAN .....	5
THAILAND .....	5
VIETNAM .....	6
FOCUS: Software developers in India .....	6

## INTRODUCTION

We hope that you find the *Asian Technology Newsletter* informative. BDA is a corporate finance advisory firm that helps multinational clients to identify and execute acquisitions and JVs in Asia. We have developed a focus on the technology sector, in pace with the growing level of M&A and other investment initiatives within this sector in Asia.

If you think that BDA's services may be useful to you, please contact us in New York on (212) 265-5300, or in Singapore on (65) 533-8500.

Andrew Huntley  
Director

## CHINA/HK

**3M, H&Q Asia Pacific, Motorola, Nortel Networks, Sybase, Vtech Holdings, and News Corp** (via **Star TV**), are some of the multinational companies that have pledged support for the Hong Kong Government's plan to turn the country into an innovation center and technology hub. The Government has announced the **Cyberport Project**, a HK\$13bn (US\$1.7bn) facility which will provide a range of shared facilities for tenants, including a multimedia network, a cyber-library, and other IT services and support facilities. (February 27, 1999)

**Frontline Technologies Holdings** has joined with US-based **Cadence Design Systems** to set up **Cadence China Technologies**. The new company serves to tap China's growing market for electronic product design software and services. Frontline provides integrated IT solutions, applied engineering consulting, systems support services, design automation and design services, and Cadence is a US\$1.2 billion supplier of software, consultancy and design services. (February 15, 1999)

**Microsoft** has unveiled a new operating system, *Venus*, designed to bring Internet access to Chinese homes at less than 20% the cost of a PC. Venus would allow electronics firms to integrate a PC, video compact disc player and Web browser into a single television set-top box. Companies with plans to develop Venus-based devices include Taiwan's **Acer**, Holland's **Philips Consumer Electronics**, and China's **Legend Holdings** and **Stone Electronic Technology**. This move is expected to add impetus to the Internet market in China. (March 11, 1999)

**Microsoft** has won a software piracy lawsuit in China against **Beijing Haisida Science and Technology Development** and **Min'an Investment Consulting**, demonstrating China's efforts to strengthen intellectual rights protection. The two Chinese companies were found to have infringed upon the copyright laws involving unauthorized installation of Microsoft products in their computer lines. (February 15, 1999)

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## INDIA

**Dell Computer** is planning to establish a 100% owned subsidiary in Bangalore by the end of 1999. As part of its new marketing program in India, Dell intends to invest US\$5m-US\$10m in the country this year, a portion of which would be used for the new subsidiary. The company has indicated that it would continue its relationships with its current distributors in India, which include **CMS Computers**, **Mastek**, **Minicomp**, and **Rolta India**. Dell has also appointed India's **Infosys Technologies** to provide custom development for the company's online commerce applications. (March 18, 1999)

**Iridium India Telecom** is finally offering global mobile personal communication services in India, after almost four months of delay. Iridium India could not start its services in November 1998 (even though it had obtained the provisional operating license) because of delays in receiving the license to import handsets and in obtaining customs clearance. (March 18, 1999)

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## JAPAN

**Fujitsu**, which already owns 50% of **Nifty**, is acquiring **Nissho Iwai's** stake for ¥26bn (US\$220m). Nifty, which runs Nifty Serve, Japan's largest comprehensive online service provider with 2.7m subscribers, will become a wholly owned subsidiary of Fujitsu. (March 24, 1999)

**Mitsubishi Electric** warned that it would not be able to meet its earning forecasts of ¥20bn (US\$170m) for the year to March 1999 as Japan's weak economy has hurt domestic sales and the yen's surge against the dollar has decreased export earnings. (February 25, 1999)

**NEC** is likely to lose more than ¥150bn (US\$1.3bn) in the year to March 1999; a reversal from the preceding year's profit of ¥41.3bn (US\$353). This record loss could result in the resignation of President Hisahi Kaneko. The problems stemmed from a fall in revenues from the semiconductor and communications equipment businesses. (February 18, 1999)

**Nippon Telegraph and Telephone (NTT)** has developed a computer chip which can quickly identify fingerprints to help safeguard electronic money cards, portable phones and other electronic devices. The chip, estimated to cost one-tenth as much as previous models, is 1.5cm square and 0.5mm thick. NTT plans to commercialize the chip in several years. (February 19, 1999)

**Sony** is to undergo a major restructuring in an attempt to scale down manufacturing capacity and consolidate its electronics businesses to focus on multimedia. The company's electronics business, its biggest revenue earner, has suffered a plunge in profitability due to falling prices and weak demand in key markets. The reorganization would allow Sony to break away from being a conventional electronics manufacturer to focus more on value added software and content distribution. (March 10, 1999)

**Sony** and **Toshiba** will form a JV to produce computer chips to be used in the new video game player that will succeed the best-selling *Sony PlayStation*. The new JV company will be established in April. (March 5, 1999)

**Yahoo! Japan** has estimated revenues of ¥1.85bn (US\$14.8m) for the year ending March 31, 1999, up 46% from the previous year due to heavy advertising contracts. This healthy result highlights the expansion of Japan's Internet market, as more Japanese consumers buy personal workstations and log on to the web. It is forecasted that the market for PCs will

grow 47% in 1999, after climbing 123% in 1998. (March 9, 1999)

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## KOREA

**Hyundai Electronics** has sold a 90% stake in its US semiconductor assembly unit, **Chippac**, to a consortium led by **Citicorp Venture Capital** of US for US\$550m. Hyundai Electronics said it would retain a 10% stake in Chippac as a sign of its continuing cooperative relationship with the new management. (March 15, 1999)

**Shinsegi Telecom**, the second-largest cellular phone carrier in Korea, has announced a US\$2.4m agreement with **Centigram Communications**, a leading global provider of advanced messaging and communications solutions listed on the Nasdaq. Shinsegi has expanded its voice messaging capabilities with the purchase of three additional Centigram servers for its Pusan, Kangnan and Kangbuk branches, bringing the company's total Centigram servers to 16. (March 15, 1999)

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## MALAYSIA

**Champion Computers**, a unit of the listed **Mah Sing Group** in Malaysia, will sell a 85% stake in each of **Toptek International** and **Toptek Investment** to **Chi Sun Electronics**, for RM1 each. Toptek International holds a 67% stake in **Taiwan Multimedia** and **Toptek Multimedia**; Toptek Investment, based in the US, holds 67% in **TMI Multimedia**. Both companies have sustained severe losses since they started operations. (March 10, 1999)

**Fiberail**, a fiber-optic network services provider in Malaysia, aims to expand its activities to Bangladesh, India and Sri Lanka. The company, 60% owned by **Telekom Malaysia** and 40% by **KTM**, was set up to install and operate the 1,600km fiber-optic network

which runs along KTM's railway grid on the west coast. Fiberail intends to capitalize on its expertise and Telekom's presence in other countries to extend its business overseas. (March 16, 1999)

**PDX Infoworld** has forged a strategic alliance with **Netscape Communications** to become the first independent software vendor in Asia-Pacific for Netscape's IBPP (Internet Bill Presentation and Payment) solutions. The companies intend to integrate PDX's software *Paystream* with Netscape's *BillerXpert* into a comprehensive Internet solution for bill presentation, consolidation and payment. PDX plans to resell the solution through a network of systems integrators in Asia-Pacific to the financial, telecommunications and utility sectors. (March 12, 1999)

**SM Summit Holdings**, an audio and video compact disc-maker in Malaysia, will list on the Kuala Lumpur Stock Exchange's second board at the end of March. SM Summit claims to hold 65% of the CD market and 60% of the cassette tape market, and will be using the proceeds of the listing to improve and expand its production facilities. (March 11, 1999)

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## PHILIPPINES

**Globe Telecom**, part of the **Ayala Group**, is engaged in a US\$45.5m project with **Ericsson Radio Systems** of Sweden, which seeks to provide 152 cellsites strategically located in Metro Davao and Cebu province. The partnership will provide Metro Davao with GSM (Global Service for Mobile communications) coverage. (March 16, 1999)

**Lexmark**, the US printer vendor, is setting up a P1.3bn (US\$34m) manufacturing plant for inkjet products in Philippines. The investment is aimed at bringing Lexmark products closer to the Asia Pacific market. Activities are expected to begin in Q4 1999. (March 24, 1999)

**Philippine telecom companies** face a looming consolidation in the overcrowded industry. Some

US\$2bn has poured into the sector in the six years to 1996 when deregulation allowed 33 new entrants, and the telephone density ratio has been raised to 9% in 1998 from 1.2% in 1992. (March 13, 1999)

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## SINGAPORE

**Asian Micro**, which makes specialized engineering parts for semiconductor giants such as **Maxtor** and **Western Digital**, was presented with the Overseas Enterprise Incentive (OEI) award by the Economic Development Board of Singapore. This award will enable the company to enjoy significant tax exemptions on income remitted back to Singapore from its overseas subsidiaries and operations. Asian Micro currently has manufacturing operations in Thailand, Malaysia and the Philippines. (March 13, 1999)

**Brilliant Manufacturing**, a disk-drive baseplate manufacturer in Singapore, has incorporated **Brilliant Precision Manufacturing** to undertake the machining of metal baseplates for disk drives in Malaysia. The new plant will have an initial capacity of 1.8 million baseplates per quarter. Brilliant intends to use Singapore as a base to produce high-end disk drive baseplates, and Malaysia to produce the lower-end baseplates. (March 10, 1999)

**Chartered Semiconductor Manufacturing (CSM)** has announced a chipmaking technology licensing agreement with chip giant **Motorola**. This move could revive its wafer fab JV with **Hewlett-Packard**, known as **Chartered Silicon Partners (CSP)**. The JV was announced in April 1997 but the project's startup was postponed to mid-2000. CSM and CSP will license from Motorola the *HiPerMOS* technology, which includes the latest copper-based chipmaking technology. (February 24, 1999)

**Lotus Development Asia Pacific** has tied up with the **National Computer Board** of Singapore to allow companies and individuals in the country to work more closely with one another using the national broadband network, *SingaporeOne*. *SingaporeOne* will commence a

trial of *Lotus Quickplace*, Lotus' newest initiative in collaborative work that enables users to set up workgroups across networks. (March 2, 1999)

**Maxtor** is expanding its presence in Singapore with a second manufacturing plant, increasing its headcount by 20% to 5,800. Maxtor, which currently makes only 3.5-inch desktop drives, also has plans to venture into server drives. It hopes to introduce its first server drives in another 18-24 months. Maxtor's total investment in Singapore over the last three years stands at US\$160m. (February 26, 1999)

**MyWeb Inc.com**, a Singaporean Internet-linked company started by 3 students from the National University of Singapore, made its debut on the Nasdaq in February. The company specializes in Internet TV technologies. Currently, **Pacific Internet** and MyWeb are the only two Singaporean firms listed on the Nasdaq. Other up-coming Internet-linked firms in Singapore, such as **SR Singapore** and **Asia Manufacturing Online**, are expected to opt for a US listing as well. (February 26, 1999)

**Singatrust**, a distributor for scientific equipment in the semiconductor and electronics industry, has partnered with US-based **SCP Global Technologies** to form a 50-50 JV called **SCP Asia**. The JV will initially distribute and service SCP automated surface preparation tools in Singapore, Malaysia, the Philippines, Thailand and Indonesia. SCP Asia will work with, and benefit from, the regional sales and services network of Singatrust's subsidiary, **Excellent Scientific Instruments**. Also, the JV's business will expand to include the development, quality assurance, manufacture and assembly of automated surface preparation tools within the next two years. (March 12, 1999)

**National Computer Systems**, one of Singapore's top providers of IT products and services to corporations, has partnered with leading US IT systems testing firm **Mercury Interactive** to deliver a comprehensive range of testing solutions, based on technology developed by Mercury. The Nasdaq-listed Mercury controls more than one-third of the global testing-tools market, according to Forbes Magazine. (February 15, 1999)

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## TAIWAN

**Associated Industries China**, one of the major container manufacturers in Taiwan, will begin mass production of LCD monitors in both its China and Taiwan factories in June 1999. Annual production is targeted at 40,000 LCD monitors. The company also plans to set up a factory in Taipei to produce ITO glass in the year 2000, and plans to produce electroluminescent monitors in the future. Associated Industries China's revenues in 1998 were US\$60m and the company expects to break through US\$300m in sales revenues in 2002. (March 15, 1999)

**CMC Magnetics**, Taiwan's largest compact-disc maker, expects its net profit to increase 25% to NT\$3.8bn (US\$115m) in 1999 due to plant expansions. The company also expects more OEM orders from overseas customers, which would boost its sales and earnings. (March 16, 1999)

**Compaq** has said it will set up a manufacturing competence center in Taipei that would provide up-to-date technology to Taiwanese companies. The center's focus will be on Internet commerce, use of information-management systems and the integration of resource planning and plant automation. Compaq also expects to purchase US\$7bn worth of computer equipment from Taiwanese companies in 1999. (March 16, 1999)

**Maxnav Electronics** has begun mass production of computer mainboards. The company originally produced digital monitoring and recording systems, but began producing mainboards in 1998. (March 16, 1999)

**United Microelectronics Corp (UMC)** will partner with Japan's **Kawasaki Steel Corp** to develop 0.18 micron manufacturing technology. Under the agreement, Kawasaki's engineers will work with UMC on the project. UMC will supply Kawasaki with chips and help the firm expand its ASICs operations. (March 16, 1999)

**Winbond Electronics**, a Taiwanese chip maker, has signed a licensing agreement with **Toshiba** of Japan to license 0.175 micron and 0.15 micron manufacturing technology. A lower size boosts a chip's efficiency and lowers costs. (March 17, 1999)

**Wyse Technology**, the world's biggest computer terminal maker, made its debut on Taiwan's over-the-counter exchange, rising by its daily limit of 7%. Wyse was the first US-owned, New York-listed company to be taken over by Taiwanese investors, in one of Taiwan's biggest overseas purchases in 1990. Wyse was subsequently delisted in the US and listed in Taiwan. (March 4, 1999)

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## THAILAND

**Advanced Info Service** has announced that it is investing Bht2.8bn (US\$75m) to improve its network and services. The investment is higher than the original plan for Bht1bn (US\$27m) because the group's financial position has strengthened following its partnership with **Singapore Telecom (SingTel)**. SingTel acquired a 20% stake in AIS earlier in 1999 for Bht8.2bn (US\$220m). (March 16, 1999)

**Broadcasting Network Thailand (BNT)**, a Thai media firm, and **Elmsdale Media**, a new British TV group, will form a JV called **Thai Interactive Television** to provide interactive cable TV service in early 2000. The service, allowing two-way communications for TV viewers, will be the first of its kind in Thailand. Elmsdale would provide on-demand solutions, technical knowledge and international content, and BNT would contribute local content and in-depth knowledge of the domestic market. (March 19, 1999)

**Total Access Communication**, Thailand's second largest mobile phone operator, has returned to profitability, announcing 1998 earnings of Bht13bn (US\$316m). The company plans to focus on its core businesses relating to mobile phones in the future, and to divest its other units. (March 3, 1999)

**United Communication Industry (UCom)**, the Thai telecom group, has announced that it is actively seeking a big foreign partner to take an equity stake in the company and hopes to conclude a deal within the next year. Ucom holds 70% of **Total Access Communication**, a Thai cellular firm, and has stakes in cable and broadcasting companies. The company is heavily indebted and suffered badly from the devaluation of the Thai baht in 1997. (March 5, 1999)

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## VIETNAM

The **Vietnam Data Company (VDC)**, under **Vietnam Post and Telecommunications (VNPT)**, and Japan's **KDD** have signed an agreement to open a new Internet gateway named **NEWEB**. VNPT will link with **NEWEB** via a 2 Mbps high-speed digital circuit carried by an optical-fibre submarine cable. The link will give Internet users in Vietnam easier and quicker access to networks in other countries in the Asia-Pacific. VDC is currently the only Internet access provider in Vietnam. (March 12, 1999)

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## FOCUS:

### Software developers in India

India is noted for its IT industry, especially in the area of software development and export. According to **NASSCOM** (an association of software companies in India), the value of software export grew tenfold from US\$164m in 1992 to US\$1.6bn in 1998, and is expected to reach US\$2.5bn in 1999.

The large pool of relatively cheap, highly skilled engineers is the key driving force for growth in the industry. There are currently about a million qualified engineers in the country and approximately 90,000 are entering the market every year. On average, Indian programmers are paid only about 15% of what comparable Western ones command. In addition, the recently released Indian Budget also provides

much impetus for the growth of the software industry in India; the scrapping of the software service tax is especially applauded. This combination of a low cost base coupled with government support provides for considerable further growth in the industry.

Over the years, the software industry in India has shifted from the initial provision of cheap labor to a focus on quality software development. Many Indian software companies now have ISO9000 certification and working towards SEI-CMM (Software Engineering Institute – Capability Maturity Model) levels 4 and 5. The demand from America and Europe for Indian software development services is likely to continue, further fueling the Indian software industry.

In this issue, we profile some of the most interesting Indian software companies with whom BDA is well acquainted.

### Aditi Technologies Pvt Ltd

Aditi is a privately held company founded in 1994 by Pradeep Singh, who previously spent nine years in management at Microsoft. The company started off as a provider of email-based technical support to Microsoft developers worldwide. Aditi today has three business areas, namely support services, software development services, and packaged products. Aditi provides online support to Real Audio developers and is currently the only company providing support to SQL7 developers. Aditi also provides onsite and remote custom development and technical support services. The company's first out-of-the-box product, **Talisma**, was released in 1998 and the second version is due to be launched within the year. **Talisma** is an email management system that allows efficient flow and follow through of electronic communications. The product has received good reviews, and the market is positively anticipating the new version. Aditi's estimated turnover in 1998 was US\$5m and is expected to achieve US\$10m in 1999.

### Infosys Technologies Limited

Established in 1981, Infosys is the first Indian software company to list on the Nasdaq. Infosys provides quality software services and products to customers across the globe. Services include customized software development and software reengineering. It operates mainly in the domains of Retail & Distribution, Banking & Finance, Insurance, and Telecommunications. The more notable clients include Groupe Salmon, JP Morgan, Levi's, Lucent, and

Nortel. The company had a turnover of Rs 258 crores (US\$64m) in 1998 and is expected to do some US\$120m of business in 1999. Operating margin in 1998 was approximately 25%.

### Satyam Computer Services

Established in 1987, Hyderabad's Satyam now has six development centers across India and operates offices in several countries including Australia, Japan, UK and the USA. Satyam has about 100 multinational clients, many of which are Fortune 500 companies. Key services are in application development and maintenance, systems integration, conversion and migration, and Y2K solutions. Satyam has SEI-CMM level 5 for all of its divisions. Turnover in 1998 was Rps 179 crores (US\$45m), with an operating margin of 24.7%.

### Silicon Automation Systems Ltd (SAS)

Headquartered in Bangalore, SAS is a privately held company founded in 1989 by 4 partners with experience working in the Silicon Valley in the US. Its core business is in the development of key technologies and the licensing of these to its clients. SAS's tools and services enable and facilitate the design of communications, computing, networking and semiconductors equipment. Most of its turnover

(64%) comes from its communications design business. Some of its noteworthy clients include Northern Telecom, Fujitsu, Hitachi and Sharp. SAS currently has a 450 people-strong team, consisting of many Masters and at least 19 PhDs. It is estimated that SAS's turnover in 1998 exceeded US\$10m.

### Wipro Limited

Wipro, head-quartered in Bangalore, is a diversified group whose strongest arm is its software division. Software exports in 1997-98 were Rps 392 crores (US\$93m) and are expected to reach Rps 700 crores (US\$167m) in 1998-99. 75% of sales are to the US and 15% to Europe, and Wipro's software services are expected to account for 46% of sales in FY2000. Operating margins are expected to improve as the company shifts further towards software services. Wipro operates mainly in the domains of Banking & Finance, Telecommunications, and Healthcare, and has about 100 clients, out of which about 20 are Fortune 500 companies. The top 10 clients contribute 40% of its revenues. Significantly, Wipro's revenues have low dependency on Y2K projects (less than 8%). Wipro is known for its strong management team, highly skilled engineers, and commitment to quality assurance, factors that are likely to sustain its leading position in the market. Wipro would clearly make a formidable alliance partner.

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## ABOUT BDA

Business Development Asia is a corporate finance advisory firm which assists US companies in expanding their businesses in Asia. BDA helps clients to find local business partners and acquisition opportunities and has senior advisors in Bangkok, Jakarta, Kuala Lumpur, Manila, Seoul, Shanghai, Taipei and Tokyo. For further information on BDA's services or on any of the articles in this newsletter, please contact Euan Rellie or Charles Maynard, through our New York office, or Andrew Huntley in Singapore.

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