UTSTARCOM INC
Form 10-K
February 21, 2003

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ý **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year Ended December 31, 2002.
OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to_____ .

COMMISSION FILE NUMBER 000-29661

UTSTARCOM, INC.

(Exact name of Registrant as specified in its charter)

DELAWARE	**52-1782500**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
1275 HARBOR BAY PARKWAY, ALAMEDA, CALIFORNIA	**94502**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (510) 864-8800
Securities registered pursuant to Section 12(b) of the Act: NONE
Securities registered pursuant to Section 12(g) of the Act: Common Stock, $0.00125 par value

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes /x/ No / /

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. / /

The aggregate market value of voting stock held by non-affiliates of the registrant as of January 31, 2003, was approximately $1,231,318,352 based upon the closing price of $19.27 reported for such date on The Nasdaq National Market. For purposes of this disclosure, shares of Common Stock held by persons who hold more than 5% of the outstanding shares of Common Stock and shares held by officers and directors of the registrant, have been excluded in that such persons may be deemed to be affiliates. This determination is not necessarily conclusive for other purposes.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes /x/ No / /

The aggregate market value of voting stock held by non-affiliates of the registrant as of the last business day of the registrant's most recently completed second fiscal quarter was approximately $1,378,658,004 based upon the closing price of $20.17 reported for such date on The Nasdaq National Market. For purposes of this disclosure, shares of Common Stock held by persons who hold more than 5% of the outstanding shares of Common Stock and shares held by officers and directors of the registrant, have been excluded in that such persons may be deemed to be affiliates. This determination is not necessarily conclusive for other purposes.

As of February 7, 2003 registrant had outstanding 107,017,039 shares of Common Stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Annual Meeting of Shareholders to be held on May 9, 2003 are incorporated herein by reference in Part III.

UTSTARCOM, INC.

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PART I

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws. These statements are based on information that is currently available to management. We intend such forward-looking statements to be covered by the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, and we are including this statement for purposes of complying with those provisions. The forward-looking statements include, without limitation, those concerning the following: our expectations as to the nature of possible trends, the manner in which customers in Chinese provinces negotiate for the purchase of our products; our expectation regarding continued growth in our business and operations; our expectation that our PAS network access system will continue to be allowed in China's county-level cities and counties; our expectation that there will be no penalties or fines for our non-compliance with the licensing requirements in China for our PAS and iPAS systems and other products; our expectation concerning the anticipated cost and completion date of our new Hangzhou manufacturing facility, our expectation that there will be fluctuations in our overall gross profit, gross margin, product mix, quarter to quarter results, customer base and selling prices; our plans for expanding the direct sales organization and our selling and marketing campaigns and activities; our expectation that we may use part of the net proceeds of our initial and follow on public offerings to acquire or invest in complementary businesses, technologies or product offerings; our expectation that there will be increases in selling, marketing, research and development, general and administrative expenses; our expectation that we will continue to invest significantly in research and development; our expectation that we will fill the majority of our current backlog orders; our expectation regarding our future investments, particularly in Softbank China; and our expectation that existing cash and cash equivalents will be sufficient to finance our operations for at least the next 12 months. Additional forward-looking statements may be identified by the words, "anticipate," "expect," "believe," "intend," "will" and similar expressions, as they relate to us or our management. Investors are cautioned that these forward-looking statements are inherently uncertain. These statements are subject to risks and uncertainties that may cause actual results and events to differ materially. For a detailed discussion of these risks and uncertainties, see the "Factors Affecting Future Operating Results" section of this Form 10-K. We do not guarantee future results and undertake no obligation to update the forward-looking statements to reflect events or circumstances occurring after the date of this Form 10-K.

ADDITIONAL INFORMATION

UTStarcom is registered as a trademark in the United States. UTStarcom and PAS are registered as trademarks in China. We have applied to register the mSwitch and Netman trademarks in China.

In this Annual Report on Form 10-K, references to and statements regarding China refer to mainland China, references to "U.S. dollars" or "$" are to United States Dollars, and references to "Renminbi" are to Renminbi, the legal currency of China.

Unless specifically stated, information in this Annual Report on Form 10-K assumes an exchange rate of 8.3 Renminbi for one U.S. dollar, the exchange rate in effect as of December 31, 2002.

UTStarcom's public filings, including its annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, are available free of charge at its website, *www.utstar.com*. The information contained on our website is not being incorporated herein.

ITEM 1 BUSINESS

OVERVIEW

Incorporated in 1991 as a Delaware Corporation, UTStarcom designs, manufactures, and markets leading Broadband, Narrowband, wireless access, Softswitch and 3G products which offer a clean migration path to next-generation Internet Protocol (IP-based) networks. These products support service providers as they evolve their networks to meet the changing and growing demands of consumers. Providers are migrating voice services from the traditional copper-based network to wireless and packet-based networks. The copper-based network itself, once limited to carrying narrowband services, is evolving to support broadband services. Service providers are also migrating from circuit-based time division multiplex (TDM) services to packet-based services. Because UTStarcom engineers its solutions with migration needs in mind, service providers can implement them quickly and cost effectively.

We provide a range of next-generation wireless and wireline network service products that support widely adopted international standards and protocols, so service providers can easily integrate them into existing networks and deploy them in new networks.

UTStarcom solutions are based on four principle technology platforms mSwitch, PAS/iPAS (IP-based PAS), AN-2000, and 3G that carriers can use to build their networks in a modular fashion.

mSwitch is a highly scalable, IP-based, multiservice switching architecture that seamlessly bridges the gap between existing circuit-switched and next-generation packet-switched networks.

Our wireless network solution, Personal Access Services (PAS/iPAS), allows service providers to offer premium-quality voice, data, and value-added services over mobile and fixed wireless networks using our specially designed PAS handsets. PAS also provides an affordable pathway for service providers to migrate from wireline to community-based wireless in regions where there is little or no existing copper infrastructure. As of December 31, 2002, UTStarcom had cumulatively deployed or were in the process or deploying approximately 22 million lines of PAS/iPAS equipment servicing approximately 7.5 million subscribers in 21 provinces in China. Based on our knowledge of China's communications market, we believe that PAS is the most widely deployed wireless local access system in China. In the Taiwan market, approximately 500,000 subscribers were using our PAS systems as of December 31, 2002. In addition, we have deployed systems or begun trials for PAS in India, Vietnam and the Latin America region.

For wireline networks, we provide a broadband-ready access platform called AN-2000. As of December 31, 2002, approximately 4 million AN-2000 lines had been deployed in China, including deployments of 80,000 broadband DSLAM lines in Zhejiang Province. We have launched significant deployments of our AN-2000 platform in Japan, Latin America and India.

Our 3G network solution enables the transformation of voice-centric mobile communications to content-rich multimedia services. We support W-CDMA, CDMA 2000 and TD-SCDMA standards to deliver wireless multimedia over an IP core network.

UTStarcom is committed to offering products that make its customers more competitive and more successful. Service providers use our integrated suite of products to attract a wide range of customers by offering a wider selection of efficient and expandable voice, data and Internet access services. Because UTStarcom offers cost-effective deployment, we believe our products enable service providers to earn more money per customer by offering numerous additional services.

UTStarcom's range of wireless solutions enables service providers to sell highly affordable wireless communications services to the large population of users whose needs are not met by existing fixed line and cellular services. Our solutions also make it easy for service providers to offer value added services for a nominal amount or at no additional cost to themselves and for only a small incremental cost to

their customers. And because our solutions offer a migration path, the service providers can easily add new wireless services and additional revenue streams while maintaining the value of their previous technology investments.

Historically, substantially all of our sales have been to service providers in China. However, our range of solutions can be used wherever there is a need for cost-effective communications. We are currently expanding our sales efforts to include growing communications markets in Japan, Taiwan, Vietnam, India, Latin America, and elsewhere.

INDUSTRY BACKGROUND

Growth in China's Communications Market. China is the fastest-growing and largest communications markets in the world. Growth in China's communications equipment and services markets is being driven by the government of China's commitment to developing a communications infrastructure, strong demand for communications services and robust economic growth.

China's demand for communications services is highlighted by its relatively low tele-density rate, which is a measure of the number of lines per hundred people. According to data released by China's Ministry of Information Industry (MII) at the end of 2002, China had a fixed-line teledensity rate of only 16.8% and a population of approximately 1.3 billion. In contrast, according to a report by the International Telecommunication Union as updated in June 2002, fixed-line teledensity rates for the United Kingdom, France, Hong Kong and the United States were 58.8%, 57.4%, 57.7%, and 66.5%, respectively. While growth in China's communications market is currently driven predominantly by voice services, the increasing demand for data services also presents a growing opportunity both in China and in other international markets. According to data provided by the MII, Internet users in China reached 49.7 million by the end of 2002, an increase of 36% year over year. In order to support this growth in data traffic, service providers in China must continue to expand their networks. We believe this is best achieved by deploying IP-based equipment.

China's ability to invest heavily in its communications infrastructure is fueled by the country's strong economic activity. According to the China's State Statistics Bureau, China's gross domestic product, or GDP, grew 8.0% in 2002. The bureau also estimates that China's GDP will grow by approximately 7% through 2005.

Communications Needs of Developing Countries. Demand for voice and data communications services in developing countries continues to grow rapidly and is driven by both public sector infrastructure investment and private sector business growth. The governments of many developing countries have identified the development of a communications infrastructure as a key driver of modernization and economic growth. Governments are increasingly implementing and funding infrastructure development through privatization of state-owned telecommunications service providers. These service providers, in turn, are deploying advanced networks for voice and data services. In addition, increasingly affluent businesses and residential consumers in the highest growth regions of these countries are demanding state-of-the-art voice and data communications solutions to interact and compete on a global basis.

Communications Network Architecture in China. The development of China's communications infrastructure involves installing a nationwide network of high-bandwidth fiber-optic backbone networks and connecting each business and residential subscriber to this backbone. The wireline and wireless systems that link local subscribers to these backbone networks are referred to as the last mile or the local access network. The high growth rate, geographic dispersion and diverse communications needs of residences and businesses in China means that the direct wiring of subscribers to the backbone network using traditional copper connections is a lengthy, costly and inefficient process. Direct wiring of subscribers to traditional telephone switches often locks those subscribers into a limited set of communications services and limits expandability and migration to other services. In contrast, service

providers in China require communications equipment that allows them to provide services quickly, efficiently and cost-effectively. Given the relative absence of a legacy communications infrastructure in China, these service providers are less constrained and thus often seek to deploy the latest best-of-breed systems with the flexibility to handle voice and data services.

Needs of Service Providers. Voice and data service providers require network solutions that address all of their access needs and offer easy migration to next generation networks while minimizing operational expense. These service providers require products that enable them to quickly, and with minimal incremental investment, address the changing demands of their subscribers for expanded or more advanced services. Given the rapid growth in emerging communications markets in regions such as Southeast Asia, Latin American and India, network solutions must be scalable. The same architecture must provide an affordable entry-level solution to initially serve a few hundred subscribers, yet economically scale to serve several hundred thousand subscribers over time. In addition, service providers require the following:

Return on Investment. As competition intensifies, service providers require the ability to offer advanced and flexible services to their customers. Service providers must ensure these new services drive subscriber growth and, ultimately, revenue and profitability. As a result, service providers are focused on return on investment, enabling them to deploy technology that provides increased services today while also providing a cost-effective migration path to future expansion and functionality.

IP-Based Networks. An increasing amount of voice and data traffic travels across IP-based networks instead of traditional circuit-based networks. The principal advantages of highly flexible, IP-based networks over circuit-based networks are lower cost, higher speed and the support of multiple applications, including e-mail, short-messaging, Internet access, video and voice in a single network. Because of these advantages, investment in IP-based networks is increasing while investment in circuit-based networks is decreasing.

Integrated Voice and Data Solutions. Service providers are increasingly looking to expand their service offerings beyond traditional voice services to provide data and other value-added services. As advanced high speed data networks are deployed, service providers will require solutions that can be upgraded to adapt to new technologies while preserving the investment in their existing infrastructure. These networks will enable service providers to differentiate their service offerings, build customer loyalty and generate incremental revenue.

Rapid Deployment. Given the rapid growth in emerging communications markets such as China, service providers are focused on quickly deploying solutions to meet customer needs. Wireless access solutions allow for rapid deployment of relatively inexpensive networks that give service providers significant revenue potential and cost advantages over wireline networks. In addition, service providers require wireless networks that will allow for convergence of voice and data and migration to third generation networks, referred to as 3G networks.

Commitment to Local Markets. Service providers value equipment vendors that have made a strong commitment to their local markets. This commitment includes direct sales forces and local service organizations to respond to the needs of service providers and their subscribers.

Although markets such as China represent substantial opportunities for communications equipment vendors, few companies have delivered products that have the ability to smoothly migrate to next generation technologies, coupled with the local presence that service providers require.

THE UTSTARCOM SOLUTION

We design, manufacture, and market a full range of Broadband, Narrowband, Wireless, Softswitch and 3G solutions that enable easy migration to next-generation IP-based networks. Carriers use them to create IP-based networks, integrated voice and data solutions, and wireless access networks.

An important element of our strategy is our commitment to delivering lower cost-per-subscriber via lower operating costs, greater operating efficiencies, and higher and more diversified throughput levels. In addition, we provide our customers with a full range of solutions that they can tailor to their specific market needs and that enable them to offer a full range of services to their subscribers. We have been particularly successful in enabling our customers to offer high-bandwidth, multi-featured, affordable regional wireless services to portions of the large, unserved market of users that want mobile service but that do not require or cannot afford GSM cellular service. Finally, our solutions give carriers a full range of migration services, from voice to wireless, from copper to broadband, and from circuit switching to packet switching.

We offer our customers a number of key competitive advantages:

Migration to Next-Generation IP Networks. Our core IP products are designed with the flexibility to allow service providers to deliver voice and data services over today's circuit-based networks and to migrate to next-generation broadband wireline and wireless networks based on IP and other international open standards. As a result, service providers can preserve their investment in existing networks and generate incremental revenue from their investment in our products while migrating to next-generation networks over time. Our products enable service providers to effectively time their network equipment expenditures, expand voice and data capacity and rapidly introduce new services as demand warrants.

Cost-Effective Solutions. Our products are designed to provide operators with a high return on their investment. By reducing network complexity, integrating high performance capabilities and providing a flexible migration path to next generation networks, our products cost less to deploy and maintain than most alternative technologies.

Convergence of Voice and Data Services. We have designed our systems to offer a high degree of flexibility in terms of subscriber capacity and types of traffic delivered. Our equipment can be flexibly configured to offer a variety of services in response to subscriber demand. This flexibility is particularly important to those emerging communications markets that are currently undergoing rapid change and growth. As Internet usage achieves greater global penetration, we believe service providers around the world will desire systems that are designed to deliver high-speed data capability. Our access systems allow service providers to quickly and cost-effectively implement upgrades for new services, including high-speed data capability. Alternative solutions may require the purchase of an entirely new system to provide these services.

Wireless Access Networks. Our PAS and 3G wireless access solutions are ideally suited for the requirements of service providers in both robust and emerging communications markets. Service providers can deploy our products quickly to cost-effectively meet customer demand. Our systems allow service providers to rapidly add new subscribers and to scale network capacity in response to demand. Our IP-based wireless access solutions also provide a platform for service providers to migrate to 3G mobile networks.

Local Presence. We have established a strong local presence with China Telecom Corporation and China Netcom Corporation, the incumbent wireline service providers in China, which enables us to be responsive to them and the specific needs of their subscribers. We manufacture our products primarily at our facility in Hangzhou in Zhejiang province. By using local facilities in China, we have helped create new jobs within the provinces and have strengthened our relationships with the

Telecommunications Administrations in some of China's most modern and rapidly growing provinces. We also maintain 21 sales and customer support sites in China that allow us to deploy a customer support representative onsite anywhere in China within 24 hours. Our sales force develops direct relationships with decision makers at both the provincial and local levels through pre-sales design and consulting services. Additionally, through our relationships at the national, provincial and local levels in China, we receive a flow of information regarding market changes and insight into unique service provider needs and related opportunities. As part of this strategy to develop a local presence in markets that we serve, we also have sales, support and engineering personnel in Taiwan, India, Japan, Vietnam, as well as the Caribbean, Latin America, Europe and Africa regions.

STRATEGY

Our objective is to be a leading global provider of Broadband, Narrowband, Wireless, Softswitch, and 3G solutions. The principal elements of our strategy are as follows:

Capitalize on the Emerging IP-based Switching Market. We believe the increase in Internet usage, particularly voice over IP traffic, has resulted in a market need for a next-generation, IP-based switching platform. Accordingly, we are making a substantial investment in developing our mSwitch architecture, which is designed to integrate with our existing products and can be scaled in response to increased demand. We believe that mSwitch can deliver value to service providers, both as a stand-alone system and in combination with our PAS system and AN-2000 platform. In the future, we intend to incorporate additional functionality into the mSwitch platform that we believe will enable us to enter new markets in China and around the world.

Maintain and Grow Market Share. We believe we are well positioned to maintain and grow our worldwide business. According to a report by Synergy Research in the fourth quarter of 2002, we are the leading worldwide supplier of softswitch solutions, holding more than 51% of the global market. According to a report by Infonetics Research in the fourth quarter of 2002, we are the second leading supplier of DSLAM and IP-DSLAM solutions worldwide. Our solutions are easy to deploy, offer a clean migration strategy to future network requirements, and enable service providers to sell a wide range of high-value-added services. We expect to continue to build local and global market share, extending the benefits of our solutions to our global customer base through expansion of our international sales operations and direct sales forces outside of China.

Leverage Our Installed Base to Capitalize on Demand for Wireless and Wireline Broadband Services. We believe we are well positioned to leverage our existing global installed base of systems and service provider relationships to capitalize on an increasing demand for data and broadband services. To meet this demand, we intend to:

- leverage our installed base of AN-2000 platforms and our working relationships with providers to offer our wireless access systems;
- continue to enhance functionality and increase features of our mSwitch IP-based, multiservice softswitch platform, which is designed to enable geographically dispersed gateways and servers to interact over high-speed IP networks to serve millions of subscribers;
- enhance our PAS systems and handsets to enable the provisioning of high-speed data services over 128 Kilobits per second, or Kbps, wireless links;

continue to focus our development efforts on products that enable migration to 3G wireless technologies;

continue to innovate and develop new products so that we may offer new broadband upgrades to our installed base of AN-2000 platforms to enable the delivery of broadband services over copper connections through digital subscriber line, or xDSL, technologies;

broaden our PAS systems to enable value-added services, such as wireless content and applications which our customers offer in China under the brand name C-Mode, in Vietnam under the brand name CityPhone and in Taiwan under the brand name MiMi; and

work with original equipment manufacturers to offer service providers a complete solution for IP-based networks.

Expand Our Presence in China. We intend to further capitalize on favorable market conditions in China, including its large population, low teledensity and strong demand for communications services. Since our inception, we have focused our engineering, product development and sales and marketing efforts primarily on communications equipment for China. This focus has enabled us to be a leader in this market by quickly identifying the needs of service providers in China and rapidly developing market-specific products to address those needs. We intend to expand our presence in this market by:

increasing the number of sales and support staff and offices in China;

developing new products to address the demands of our existing and future customer base;

migrating our installed base from voice to data, from wireline to wireless, and from time division multiplex (TDM) switching to IP soft switching as market demand warrants; and

increasing our local research and development and manufacturing capabilities.

Penetrate Other Growing Communications Markets Worldwide. We have started offering our products in growing communications markets outside of mainland China, opening new international sales operations in North America, Europe, the Middle East and Africa, Central America and Latin America, and South and North Asia. We intend to penetrate these markets in several ways: through direct sales offices located in key market regions, licensing our technology to local manufacturers where import taxation favors this approach, the development of local sales agency and distributor relationships within specific market regions, and sales relationships with original equipment manufacturers. Our sales division has initiated expansion into Africa, Europe, India, Japan, Latin America, Taiwan, and other Pacific Rim markets. We have established regional offices to focus on non-China market development with sales and customer support operations in Bangkok, Hanoi, Ho Chi Minh, Manila, Miami, New Delhi, New Jersey, Shanghai, Taipei, Tel Aviv, and Tokyo. We also plan to establish local direct sales representative offices in key regions around the world. To date, we have deployed our products in a number of growing communications markets outside of mainland China, including India, Japan, Vietnam, and Taiwan.

PRODUCTS

We provide communications equipment for service providers that operate wireless and wireline networks. Our wireless and wireline access networks and IP-based switching systems include four principal technology platforms:

mSwitch our IP-based multiservice softswitch architecture;

PAS/iPAS our wireless access solution which includes infrastructure systems, handsets and value-added services;

AN-2000 our broadband access platform; and

3G offerings our third-generation mobile and multimedia solution.

Each comprises multiple hardware and software subsystems that can be offered in various combinations to suit individual customer needs. In addition, through original equipment manufacturer relationships, we provide customers in China with equipment for deployment in metropolitan area networks.

Our IP-Based Multiservice Softswitch (mSwitch)

mSwitch, our IP-based, multiservice softswitch architecture, is a cost-effective, flexible and scalable network solution designed to replace traditional central office switches. This architecture delivers multiple services, including broadband and narrowband remote access services, on an IP-based packet-switching infrastructure via wireless and wireline networks. Capacity of the mSwitch is highly scalable, allowing customers to increase their sources of revenue generation by supporting a wide range of new revenue-generating services.

A single mSwitch platform provides a variety of features and benefits:

It provides a cost effective way to upgrade an existing PSTN to a v5.2 interface.

It delivers a fully converged network that can be used to provide broadband access, Gigabit Ethernet, IP VPN, streaming video, 3G and other services.

The mSwitch architecture includes a new, revenue-generating Wireless PAS Access Gateway.

The architecture incorporates a 3G mobile core network capable of serving both immediate and future demands.

Voice over IP (VoIP) eliminates the need for the continued build-out of obsolete infrastructure.

The mSwitch's highly reliable transport carries bearer data along with signaling, control, and management information. The architecture includes operations support systems for associated billing, provisioning, and service management. The VoIP gateway functions of mSwitch seamlessly bridge service providers' existing circuit-switched platforms to next-generation, IP-based packet-switched architecture. In addition, service providers can use the mSwitch to implement a network migration strategy that protects their investments on every level. By combining our softswitch functionality with our wireless technology, mSwitch provides highly scalable, mobile switching centers that can operate with our PAS system.

mSwitch networks are distributed, which means that many geographically dispersed gateways and servers can interact over a high-speed, IP-based network to serve millions of subscribers. Gateways provide hardware resources to process voice and data and support widely used interface protocols. Servers provide functions like call routing, accounting, authorization, billing, provisioning, fault monitoring and recovery.

We have developed an advanced and comprehensive operations support system (OSS) for management of mSwitch equipment, billing for mSwitch services, and customer care for mSwitch subscribers. This OSS uses an online, Internet-based user interface that enables service provider personnel and individual subscribers to access provisioning and billing information through the Internet from an ordinary web browser.

We are also developing a set of capabilities to support 3G wireless technologies, including a mobile switching center, a radio network controller and a general packet radio service node. We were one of a select group of participants in China's technical trial of 3G mobile networks based on the 3GPP WCDMA standard. In 2002, we successfully completed the first phase of testing conducted by China's Ministry of Information Industry, or MII, and have begun field trials in two major cities. We also expect to launch two more field trials in 2003.

In addition, we are also developing mSwitch applications to provide wireline local exchange functionality, voice-over-IP gateways that will enable legacy public networks to connect to low-cost, IP-based, long-distance trunk lines, and modem and fax pools that will allow mSwitch to act as a remote access server for dial-up users who wish to access IP networks.

We are also developing IP routing capabilities that we will integrate in our mSwitch platform to further improve functionality and reduce cost to our customers. We intend to continue to enhance

mSwitch with additional applications in response to evolving market requirements and technology trends.

Our Wireless Access System (PAS)/(iPAS)

UTStarcom's Personal Access Services (PAS) wireless access system and IP-based (iPAS) wireless access system use micro cell radio technology and specialized handsets to offer business and consumer subscribers mobile and fixed access to telephone services.

PAS Wireless Access System

PAS takes advantage of unused switching capacity to let service providers offer a wide range of profitable services to a large subscriber base that other wireless technologies cannot reach. We specifically designed our PAS solution to meet the growing needs of a specific consumer-and//or subscriber population that desires limited and/or regional mobility (more than fixed line and less than a traditional cellular offering), a more cost-effective tariff plan, and access to value-added data services (VAS). When compared to macrocellular systems like GSM and CDMA, PAS offers lower deployment costs, easier radio planning, higher traffic capacity, better voice quality, faster data transmission speeds, lighter handsets with lower power requirements, and better support of advanced information services.

Because PAS is a limited-mobility system, it is ideal for deployment in urban and suburban areas; while traditional cellular systems that are based upon either GSM or CDMA standards cover larger regional areas. UTStarcom's wireless CityPhone feature allows service providers to offer subscribers same-number extension lines with citywide mobility. For additional coverage or capacity, service providers can easily deploy PAS in indoor spaces such as office buildings, airports, and shopping malls. PAS can provide wireless mobile phone service at densities of upwards of 15,000 subscribers per square kilometer. Our PAS solution integrates seamlessly into existing Public Switched Telephone Networks and offers unlimited scalability, enabling service providers to economically sell services to anywhere from 10,000 to a million subscribers.

The PAS wireless access network employs a mobile switching network based on our AN-2000 platform. The wireless access network formed by PAS components connects to the central office switch to provide local and long distance telephone service over a standard digital interface or an analog 2-wire interface. These open interfaces to the central office allow PAS to access any of the operator's installed switching capacity and to deliver existing switch based services, such as caller ID, call forwarding, and voice mail, to wireless subscribers.

iPAS Wireless Access System

IP-based PAS (iPAS)

With the UTStarcom iPAS wiress access network, operators can migrate their current wireline network to an IP-based wireless network that provides wireless voice and data services within a city or community. With this new system, service providers can offer new wireless services, such as citywide mobility, same-number wireless extension, email, mobile Internet access, short messaging and location-based services.

iPAS interconnects with the existing PSTN by way of the SS7 interface, making it an ideal solution for areas where the V5.2 interface is not yet available. With the IP trunking capability, iPAS can operate as an independent network over a unified IP-based infrastructure. iPAS also provides a standard V5.2 interface to support wireline services over a V5-based access network.

In 2002, we deployed more than 10 million lines of mSwitch-based iPAS systems in many cities in China and in several other locations outside of China. Chengdu now has the largest iPAS site in the world, with more than 500,000 users by the end of 2002.

PAS Handsets, Value Added Services and Network Management

We also design and manufacture handsets that are specifically configured to support PAS services. In 2002, we introduced 6 new handset models spanning a full spectrum of price ranges and functionalities, including our high-end 718U, a full-color handset that takes full advantage of our value-added services or VAS platform. Our strategy of designing in-house, manufacturing, licensing, and direct sourcing handset components gives us the flexibility to meet demand while offering the broadest line of PAS handsets to our global customer population. We

expect to continue to invest in this area and to introduce additional handset models in 2003, including a dual-mode cellular/PAS handset.

In conjunction with our PAS system, we enable rich wireless content and applications similar to NTT DoCoMo's iMode service. To date, this service has been launched by our customers in Xian, Chengdu, and Hangzhou in China; Hanoi and Ho Chi Minh in Vietnam; and Taipei in Taiwan. This service, known in China as C-mode, as CityPhone in Vietnam, and as Mobile Information, Mobile Internet, or MiMi/WiWi in Taiwan, employs a high-function handset with expanded LCD display that subscribers can use to browse the worldwide web and to send and receive e-mail and short messages. We support standardized Chinese as well as English characters, and local content providers in China and Taiwan are accumulating hundreds of information services including news, stock quotes, sports results, job postings, dating services, chat rooms, and fortune telling. MiMi has a Global Positioning Service (GPS) feature that can accurately determine a user's location and can list local restaurants, shops, hotels, theaters, hospitals, or other location-sensitive information when queried.

Our Netman network management system, which is integrated with our network access products, provides for centralized management of our PAS products. Netman provides the ability to manage individual network components and to report on the status of the network as a whole. With Netman, a service provider can add and drop subscribers and continuously monitor all access network elements, providing for real-time reporting and alarms in addition to performance management, optimization and distribution of software updates. Netman uses scalable client/server architecture in a Windows NT environment. Server hardware may be scaled to handle several thousand nodes. Netman can also be installed on a portable personal computer and may be used as the local onsite maintenance terminal wherever remote nodes are installed.

By end of 2002, there were 7.5 million PAS subscribers on UTStarcom's systems throughout China, a net increase of 137% year over year. UTStarcom's installed and under construction PAS/iPAS system capacity in China reached 22.2 million lines, an increase of 236% over the capacity of 6.6 million lines at the end of 2001. Among the cities we added during 2002, several cities, such as Wenzhou, Chengdu and Taipei have reached over half a million active subscribers.

Our Broadband Access Platform (AN-2000)

UTStarcom understands that service providers want to bring the power of broadband into the homes and businesses they serve so they can offer a wide range of new services that generate new revenue streams. We give service providers a way to access these services and revenue streams with our economical, scalable, versatile, and powerful AN-2000 broadband solutions.

Because our broadband solutions conform to the most rigorous industry compatibility standards, they give our customers a number of advantages. Our solutions support modular network build out, enabling service providers to expand their networks easily. Customers can be confident that their UTStarcom solution is designed to work with their networks as they grow and evolve. Our solutions also work with existing equipment; service providers do not need to eliminate their legacy technologies to offer broadband services.

The AN-2000 family of integrated broadband access platforms delivers a mix of broadband and traditional voice and data services via copper or fiber, or a wireless network. The solutions also enable

network migration from narrowband to broadband. Services supported by the AN-2000 include the following:

- traditional analog voice;
- voice and data in digital format over integrated services digital network, or ISDN, lines;
- analog and digital leased lines;
- business data over integrated digital subscriber lines, or IDSL, and high-data-rate digital subscriber lines, or HDSL; and
- high-performance, always-on Internet access for residential and business subscribers using advanced asymmetric digital subscriber line, or ADSL, technology.

Our AN-2000 platform contains both central office terminals and remote terminals that are linked together by fiber, microwave radio, or copper to form a digital access network. The remote terminals are located close to the subscribers and offer last-mile wireline connections for voice and data services to the subscribers. Each remote terminal, which is scalable from 16 to 1,520 lines, can be connected into a ring to form a metropolitan access network of up to 23,000 subscriber lines. By connecting multiple metropolitan access networks, a metropolitan service network can potentially service hundreds of thousands of subscribers.

The AN-2000 platform offers a V5.2 exchange interface that benefits service providers by shifting network intelligence out into the access network, reducing reliance on costly proprietary distributed central office switch architectures. For service providers whose switches are not yet V5.2 compliant, we provide a migration capability whereby the AN-2000 terminates analog and ISDN ports in the central office, effectively creating a V5.2 interface to the remote AN-2000 platforms.

For broadband services based on ADSL, the AN-2000 platform has integral multiplexing capability for up to 384 users to share 155Mbps of Asynchronous Transfer Mode, or ATM, bandwidth to the Internet or, alternatively, 1.6Gbps in our IP-over-Ethernet version. The AN-2000 platforms can serve as a multi-service access node in which ADSL is delivered from a remote location combined with voice and leased line services or it can be configured as a pure central-office based Digital Subscriber Loop Access Multiplexer (DSLAM). Other DSL services, including HDSL and G.SHDSL, are also available. We also offer a Broadband Remote Access Server (B-RAS) to provide service management features, including authorization, accounting, virtual networking, and protocol translation. As with PAS, our integrated Netman network management system provides centralized management of the AN-2000 platforms. The ADSL service is compatible with most customer premise modems provided by third-party vendors. As of December 31, 2002, service providers have deployed approximately 4.0 million AN-2000 lines worldwide.

In 2001, we introduced our IP-DSLAM product, based on an extension of our AN-2000 technology. This product, which began shipping in the fourth quarter of 2001, provides extremely high density and high functionality at an attractive price. This product represents a new generation of DSLAM, which does not require ATM networking, and is therefore compatible with IP-based networks. Our IP-DSLAM lowers operator costs by eliminating the need for traditional high cost ATM-based networks.

Our 3G Solution

UTStarcom offers an end-to-end solution for 3G wireless networks that supports W-CDMA, CDMA 2000 and TD-SDCMA standards. Our solution consists of three primary elements:

1. mSwitch Mobile Core Network, which consists of a Softswitch server complex, an integrated Operations and Support System (OSS), and various types of media gateways.

2. Radio Access Network (RAN), which is a combination of Radio Node Controller (RNC) and a radio base station (Node-B).
3. A suite of portable multimedia devices, which supports a variety of new applications including mobile web browsing, video phone applications and mobile computing.

UTStarcom's 3G solution is based on forward-looking IP and softswitch architecture which we believe will significantly lower the investment and operational cost for operators. This simple and cost-efficient architecture provides the ability to migrate from 3GPP R99 to 3G PP R4/5 ALL IP in the future. Other unique advantages which UTStarcom's 3G solution offers include:

1. Co-existing with iPAS network, which provides operators the choice to share the iPAS core network with future 3G solutions and offer seamless upgrades of network and customer services.
2. Layered network for flexibility and efficiency, which consists of a service layer, control layer, connection layer and access layer.
3. Scalable network capacity, which supports 10,000 to 10,000,000 subscribers.

UTStarcom started the research and development of our 3G technology in 1997. UTStarcom has established a global team of hundreds of engineers across China and the US to engage in the different aspects of 3G solutions. One major development came in November 2001 when UTStarcom was selected by China's Ministry of Information Industry (MII) along with a select group of vendors to conduct technical trials in a comprehensive mobile communications trial system of MII (MTNet) using the 3GPP WCDMA standard. After several rounds of vigorous testing, UTStarcom successfully passed all the Phase I tests in March of 2002, whereby we not only provided a complete 3GPP R99 compliant system, including core networks, (MSC, GSN, HLR, etc.), network management, RNC, Node B, and user equipment emulators, but also demonstrated a total 3G solution with stable and consistent performance with IP transport technology.

As a result, in May 2002, UTStarcom moved onto the MII's Phase II test which focused on interoperability between different vendors and an operator trial. In addition, due to the successful outcome of the Phase I test, UTStarcom secured a 10 MHZ IMT-2000 frequency from the MII to be used for internal research and trials in a few select cities. To date, the two trial systems in Shenzhen and Shanghai are running smoothly, both utilizing commercial grade handsets, and have achieved high-quality voice, data and multimedia services.

UTStarcom also has strategic alliances with Matsushita, interWAVE and Datang Mobile in co-designing and jointly developing WCDMA, CDMA 2000 and TDS-CDMA 3G systems.

Our OEM Products for Metropolitan Area Networks (MANs)

We partner with original equipment manufacturers, or OEMs, which allows us to offer our customers a broader range of products. This OEM strategy allows us to provide benefits to our customers and also allows us to learn about specific technologies and market segments that may help us to shape our overall strategic planning. One such initiative is our program to penetrate China's Metropolitan Area Networks, or MANs, to provide Layer2/Layer3 switches.

Our ACD Products

Our in house design capabilities allow us to continue to develop leading carrier class broadband access solutions. ACD products and development are synergetic with the overall system development efforts at UTStarcom. In 2002, ACD successfully launched a new Single LAN Switch chip set.

MARKETS AND CUSTOMERS

China

With anticipated annual gross domestic product growth of 7-8% and a low teledensity of 16.9% for fixed line and 16.1% for mobile, we expect China to continue to be our single largest market in 2003. We expect 70-80% of our revenue will come from China in 2003, although no assurances can be provided in this regard. In addition to a China-based engineering force, we had 21 direct sales offices throughout China staffed by nearly 1,000 sales and service representatives as of December 31, 2002.

Our PAS systems are deployed in 21 provinces in China. At December 31, 2002 there were approximately 7.5 million subscribers.

We are also a strong competitor in DSLAM and IP-DSLAM product, with 80,000 lines deployed.

Furthermore, we are competitively positioned for our 3G offerings due to our incumbent position as the largest wireless provider to the fixed line operators with our mSwitch-based iPAS system that ensures easy migration to the next generation IP core network.

Geographically, we provide our communications equipment to local telecommunications companies in a wide variety of provinces of China. Market opportunities within China's 31 provinces vary greatly by region, with the more densely populated coastal provinces experiencing the strongest economic development. However, as China extends development to the western part of the country, we have expanded our focus from the more prosperous eastern coastal regions of China, including Guangdong, Zhejiang, Fujian, Shandong, and Jiansu, to almost all inland provinces in the western part of China. While each of the local telecommunications companies is part of the China Telecom or China Netcom systems and subject to their management control, equipment purchasing decisions for most of these provinces are generally made at the local level.

Vietnam

UTStarcom entered the Vietnam market in 2002, winning contracts worth more than $20.5 million from Vietnam Post and Telecommunications (VNPT). VNPT is deploying UTStarcom's IP-based PAS technology in two major cities Hanoi, with a population of 4 million, and Ho Chi Minh City, with a population of 6.5 million. In addition, UTStarcom is implementing its AN-2000 Network Solution in Ho Chi Minh City and installing another for trials in Hanoi.

The economy of Vietnam, which has a total population of nearly 80 million, is growing at 7% annually. Vietnam is the second-fastest-growing telecommunications market in the world after China, yet it has a teledensity of less than 5%.

India

UTStarcom has successfully implemented its mSwitch, PAS, and AN-2000 solutions in India. We have either implemented our products or conducted trials with Reliance, BSNL, MTNL, Tarta and Shanym, who are among India's eight basic service operators. We believe we have successfully positioned ourselves to rapidly expand the breadth and depth of our Indian operations.

In addition, we have built a major research and development facility in Gurgaon, on the outskirts of New Delhi, that focuses on developing the India market and global research and development initiatives. We have also established local manufacturing of our AN-2000 technology in association with Himachal Futuristic Communications Limited.

Japan

Yahoo! BB, the leading provider of broadband service in Japan, has deployed UTStarcom's AN-2000 IB IP-DSLAM equipment to support its 12 Mbps ADSL service. According to the Ministry of Public Management, Home Affairs, Posts and Telecommunications in Japan, Yahoo! BB reached more than one million subscribers by September 2002, less than 13 months after the service was introduced.

The following table is a list of our customers who purchased more than $1.0 million of our products in 2002.

Fujian Province

Fu Jiang Zhang Zhou Telecommunication Bureau
Fujian Hongyu Group Company
Fujian Longyan TB
Fujian Net-Com Material ltd.
Fujian Quanzhou TB
Fujian Sanming PTC

Gansu Province

Gan Su Lan Zhou Telecommunication Bureau
Gan Su Bai Yin Telecommunication Bureau
Gan Su Tian Shui Telecommunication Bureau

Guangdong Province

Guang Dong Jiang Men Telecommunication Bureau
Guang Dong Shao Guan Telecommunication Bureau
Guang Dong Zhao Qing Telecommunication Bureau
Guangdong Telecommunication Bureau Group Zhuhai Branch

Guangxi Province

Guangxi He Zhou Telecommunication Bureau
Guang Xi Gui Lin Telecommunication Bureau
Guang Xi Nan Ning Telecommunication Bureau
Guang Xi Wu Zhou Telecommunication Bureau
Guangxi Hechi Zone Telecom Indust. Company
Guangxi Qinzhou Com. Indus. Company
Guangxi Telecommunication Bureau Baise Branch
Guangxi Telecommunication Bureau Guigang Branch
Guangxi Telecommunication Bureau Liuzhou Branch

Hainan Province

Hainan Haikou Telecommunication Bureau
Hainan Telecommunication Bureau

Hebei Province

ShiJiazhuang Telecommunication Bureau
Hebei Baoding Customers
Hebei Handan PTC
Hebei Langfang Telecommunication Bureau

Heilongjiang Province

HeiLongjiang Haerbin Telecommunication Bureau

Henan Province

He Nan Luo Yang Telecommunication Bureau
Henan Telecom Material Ltd.
Henan Telecom. Jiaozuo Company
Henan Xinxiang Com. Material Maintenance Company
Henan Zhengzhou WeiKemu Company

Hubei Province

Huangshi Telecommunication Bureau
Hubei Telecom Huanggang Branch
Hubei Telecom Yichang Branch
Shiyan Telecommunication Bureau
Xiangfan Telecommunication Bureau

Jiangsu Province

Jiang Su Nan Tong Telecommunication Bureau
Jiang Su Yang Zhou Telecommunication Bureau
Jiangsu Jubang Zixun Indust. Ltd.
Jiangsu LianYungang Guomai Com.
Jiangsu Taizhou Telecommunication Bureau
Jiangsu Xuzhou Telecommunication Bureau Yongan Branch
Nantong Post Material Company

Jiangxi Province

Jiang Xi Gan Zhou Telecommunication Bureau
Jiangxi Telecom.Yichun Branch
Jiangxi Telecom. Pingxiang Branch
Jiang Xi Shang Rao Telecommunication Bureau
Jiang Xi Xin Yu Telecommunication Bureau
Jiang Xi Ying Tan Telecommunication Bureau
Jiangxi Nanchang Telecom Indust. Ltd.
Jiangxi Telecom. Jiujiang Branch
Jiang Xi Ji An Telecommunication Bureau

Jilin Province

Jilin Siping Com. Indust. Company

Liaoning Province

Liaoning Benxi Telecom Branch
Liaoning Post Material Group Panjin Company

Neimenggu Province

Dongsheng
Huhehaote Bibo Telecom Company
Neimenggu Huhehaote Telecommunication Bureau
NeiMenggu Wide Band

Ningxia Province

Ningxia Telecommunication Bureau

Shandong Province

Jinan Zhongheng Shopping Center Zhongxun Electronic
Shan Dong De Zhou Telecommunication Bureau
Shan Dong Ji Nan Telecommunication Bureau
Shan Dong Liao Cheng Telecommunication Bureau
Shan Dong Telecommunication Bureau
Shan Dong Zi Bo Telecommunication Bureau
Shandong Jining PTelecommunication Bureau Lutong Ltd.
Shandong Linyi Telecom. Lutong Ltd.
Shandong Telecom Jining Branch
Shandong Tonglian Inf. Indus. Group Material Company
Shandong Weihai Telecom Lutong Ltd.
Shandong Yantai Telecom Lutong Ltd.

Shanxi Province

Jinzhong Telecommunication Bureau
Shanxi Datong Telecommunication Bureau
Shanxi Jincheng Telecom Branch
Shanxi Lvliang
Shanxi Taiyuan Telecommunication Bureau
Shanxi Xinyuan Com. Trade Ltd.

Sichuan Province

Chengdu Fuchuan Com. Developing Ltd.
Chengdu Guowei Industrial Ltd.
Chengdu Homeclub Com. Material Ltd.
Chengdu Lantian Information Tech. Project Ltd.
Chengdu Taili PT Field Ltd.
China Post Material Southwest Company
Fu Jiang Pu Tian Telecommunication Bureau
Si Chuan Nei Jiang Telecommunication Bureau
Si Chuan Telecommunication Bureau
Si Chuan Yi Bin Telecommunication Bureau
Si Chuan Zi Gong Telecommunication Bureau
Si Chuan Zi Yuang Telecommunication Bureau
Sichuan Chengdu Telecommunication Bureau
Sichuan Hengtong Telecom Tech. Developing Company
Sichuan Litong S&T Ltd.
Sichuan Telecommunication Bureau PanZhihua Branch

Tibet Province

Tibet Changdu Telecom Branch

Shan Xi Province

Shan Xi Han Zhong Telecommunication Bureau
Shan Xi Telecommunication Bureau
Shan Xi Tong Chuan Telecommunication Bureau
Shan Xi Xi An Telecommunication Bureau
Shanxi Xi An Tonglian Telecom Ltd.
Xianyang Telecommunication Bureau

Xinjiang Province

Xi Jiang Yi Li Telecommunication Bureau
Xin Jiang Bo Le Telecommunication Bureau
Xin Jiang Ta Cheng Telecommunication Bureau
Xin Jiang Wu Lu Mu Qi Telecommunication Bureau
Xinjiang Aletai Telecommunication Bureau

Xinjiang Dushanzi Telecommunication Bureau
Xinjiang Telecom Hami Branch
Xinjiang Telecom Kelamayi Branch
Xinjiang Telecom Shihezi Branch

Yunnan Province

Banna Telecommunication Bureau
Diqing Telecommunication Bureau
Yunan Chuxiong Telecommunication Bureau
Yunan Dali Telecommunication Bureau
Yunan Telecom Company
Yunnan Kunming Telecommunication Bureau
Yunnan Lincang Telecom Company
Yunnan Telecom Lijiang Branch

Zhejiang Province

Huzhou Telecommunication Bureau
Jiang Su Xu Zhou Telecommunication Bureau
Zhejiang Hangzhou Telecommunication Bureau
Zhejiang Shaoxing Telecommunication Bureau
Zhejiang Telecom. Group Chunan Branch
Zhejiang Telecom. Group Jiande Branch
Zhejiang Telecom. Group Linan Branch
Zhejiang Telecom. Group Ningbo Branch
Zhejiang Telecom. Group Quzhou Branch
Zhejiang Telecom. Group Taizhou Branch
Zhejiang Telecom. Group Wenzhou Branch
Zhejiang Telecommunication Bureau
Zhejiang Xiaoshan Telecommunication Bureau
Zhejiang Yuhang Telecommunication Bureau

Outside Mainland China

BB Technologies Corporation
First International Telecom Corp.
Matsushita Communication Industrial Co. Ltd
Hitron Technologies Inc.
NEC USA, Inc.
Hughes Telecom (India) Ltd.
Himichal Futuristic Communications Ltd.
Corporate Access (HK) Ltd.

For the year ended December 31, 2002, sales to Zhejiang province and BB Technologies Corporation accounted for 18% and 13% our net sales, respectively. Approximately 77.8% of our net sales during 2002 were to entities affiliated with the government of China.

We also sell our network access equipment to service providers in high growth communications markets outside of China. These markets accounted for approximately 16.2% of our net sales in 2002. We have shipped equipment to service providers in Bangladesh, India, Japan, Mauritius, Russia, Taiwan, Thailand and Venezuela. We have also begun trial deployments in the United States and Vietnam.

As of December 31, 2002, our backlog totaled approximately $605.4 million, compared to approximately $360.7 million as of December 31, 2001. We include in our backlog, contracts and purchase orders for which we anticipate delivery to occur within 12 months and products delivered but for which final acceptance has not yet been received. Because contracts and purchase orders are generally subject to cancellation or delay by customers with limited or no penalty, our backlog is not necessarily indicative of future revenues or earnings.

SALES, MARKETING AND CUSTOMER SUPPORT

We pursue a direct sales and marketing strategy in China, targeting sales to individual Telecommunications Bureaus and to manufacturers or equipment distributors with closely associated customers. We maintain sales and customer support sites in Beijing, Chengdu, Fuzhou, Guangzhou, Hangzhou, Jinan, Kunming, Nanning, Nanjing, Inner Mongolia, Shanghai, Shenyang, Wuhan, Xian, and Zhengzhou. We also sell

through relationships with regional government-owned telecommunications manufacturing companies, which act as agents in the sale of our products to Telecommunications Bureaus.

We believe our customer support services in China allow us to offer our customers high service quality. Our customer service operation in Hangzhou is co-located with our manufacturing joint venture and serves as both a technical resource and liaison to our product development organization. In China, customer service technicians are distributed in the regional sales and customer support sites to provide a local presence. We provide additional support on a 24-hour, 365-day basis from our customer support center in Hangzhou in the form of field dispatch personnel, who also provide training on installation, operation and maintenance of equipment. As of December 31, 2002, we employed 1,103 people in sales, marketing and customer support in China.

Our sales efforts in markets outside of China combine direct sales, original equipment manufacturers, distributors, resellers, agents and licensees. We maintain sales and customer support sites in Iselin, New Jersey to address North American markets; in Tokyo, Japan to address the Japan market; in Gurgaon, India to address the Indian market; in Miami, Florida and Mexico City, Mexico to address the Latin American markets; in Frankfurt, Germany to address the European and African markets; in Manila, Philippines to address the Philippine market; in Taipei, Taiwan to address the Taiwan market; in Hanoi, Vietnam to address the Vietnam market; and in Shanghai, China to address other Pacific Rim markets.

Our customer service operations in the U.S. and Hangzhou, China support our customers outside of mainland China with training, project supervision and problem resolution. We maintain and will continue to expand our staff of local personnel near customers who require support on a 24-hour, 365-day basis. In many cases our local in-country sales partners also provide customer support.

TECHNOLOGY

We believe the following key technologies have been instrumental in our ability to provide leading broadband wireline and wireless access networks and IP-based switching systems.

X-over-IP. X-over-IP refers to the transmission of various forms of traffic, including voice, video, fax, music and broadcast, over IP networks. An X-over-IP network requires the following equipment:

- media gateways at the edge of the network that convert legacy media like telephone lines, fax and data modems, or other non-IP data interfaces to IP and incorporate quality of service functionality designed to avoid delay and packet loss due to congestion;

- softswitching adds intelligence to a network platform, supporting a wide arry of functions which include address translation, service monitoring and assurance, billing, authorization, supplementary services like call forwarding, conferencing, and other signaling translations; and

- an IP network that provides high speed IP routing and transmission.

Our mSwitch platform provides the media gateway and the softswitching server and, when combined with industry-standard IP routers, creates a complete X-over-IP network.

The mSwitch gateway converts incoming TDM formats from POTS, ISDN, SS7 and leased lines into packetized voice over IP. The packetization process utilizes programmable digital signal processors that can code voice, fax and standard 56Kbps modem signals into IP. The gateway also terminates the associated TDM format signaling protocols and generates IP based signaling protocols like H.323, MGCP and SIP. The mSwitch gateway also provides IP routing functions that allow the IP packets to penetrate deeper into the core network with queuing, and route selection, consistent with the desired quality of service for each particular call.

The mSwitch softswitch provides switching intelligence to manage the calls in the network as they progress from gateway to gateway. The mSwitch operations support system provides the database management for service provisioning, authorization and flexible billing.

Service providers are increasingly offering X-over-IP services to reduce costs, reduce obsolescence, provide easier upgrades and generate incremental revenue through value-added voice and data services.

Softswitch Mobility Management. We are a founding member of the International Softswitch Consortium, an industry group formed to promote compatibility and interoperability of softswitch technologies. Based on our knowledge of the industry, we believe we are one of the first companies to develop a softswitch architecture to support mobile applications.

Softswitches control the signaling and call management functions in an X-over-IP network. Of the many possible types of softswitching services, mobile telephony and information delivery services are among the most demanding and complex. Mobile networks must track subscribers' locations dynamically whether or not they are on a call. They must provide real-time handovers between base stations, perform authorization of roaming visitors, provide real-time billing for pre-paid services and flexible routing to its roamers in foreign networks and support messaging, file transfer and assignment of data bandwidths. Based on our knowledge of the industry, we believe that our mSwitch platform is one of the first systems to provide mobile switching functionality.

mSwitch employs our proprietary, object oriented signaling protocol for mobility, known as SNSP, which we believe provides advantages over other similar protocols. mSwitch is commercially deployed

with mobility support for our PAS wireless infrastructure. The mSwitch gateway is also being developed to support the future WCDMA and TD-SCDMA radio network control protocols as well as the payload protocols for 3G. mSwitch will serve as an IP-based, mobile switching center and IP-based radio network controller. With this focus on mobility services, mSwitch is targeting one of the most complex and commercially important segments of softswitch applications.

PAS Value-Added Services. PAS offers a full suite of integrated value added services, which are easily customized, including short message services, location services, web browsing, e-mail, voice mail, and 64Kbps Internet access.

IP-switching and Transport. In support of the basic trends outlined above, we are also engaged in developing products to switch and transport IP traffic. We have introduced an IP-DSLAM which helps bring high speed IP services directly to consumer and residential users using ADSL, and are pursuing other xDSL technologies such as VDSL and G.SGDSL. In addition, we have developed products that provide Layer 2 and Layer 3 IP switching, and are working on products which will provide fiber interfaces in support of an overall FTTx standards initiative.

RESEARCH AND DEVELOPMENT

We believe that continued and timely development and introduction of new and enhanced products are essential if we are to maintain our competitive position. While we use competitive analyses and technology trends as factors in our product development plans, the primary input for new products and product enhancements comes from soliciting and analyzing information about service providers' needs. Our Ministry of Information Industry, Telecommunications Administration and Telecommunications Bureau relationships and Chinese full-service post-sale customer support provide our research and development organization with insight into trends and developments in the marketplace. The insight provided from these relationships allows us to develop market-driven products such as PAS, mSwitch and IP-DSLAM. We maintain a strong relationship between our research centers in the U.S. and China. We rotate engineers between the U.S. and China to further integrate our research and development operations. We have been able to cost-effectively hire highly skilled technical employees from a large pool of qualified candidates in China. We have also started a development center in Gurgaon, India to take advantage of the talent pool available there, and to support our operation in India.

In the past we have made, and expect to continue to make, significant investments in research and development. Our research and development expenditures totaled $86.2 million in 2002, $59.8 million in 2001 and $41.5 million in 2000.

MANUFACTURING, ASSEMBLY AND TESTING

We manufacture or engage in the final assembly and testing of our mSwitch, PAS systems and handsets and AN-2000 products at our manufacturing facility in the Chinese province of Zhejiang. The manufacturing operations consist of circuit board assembly, final system assembly, software installation and testing. We assemble circuit boards primarily using surface mount technology. Assembled boards are individually tested prior to final assembly and tested again at the system level prior to system shipment. We use internally developed functional and parametric tests for quality management and process control and have developed an internal system to track quality statistics at a serial number level.

Our manufacturing facility is ISO 9002 certified. ISO 9002 certification requires that the certified entity establish, maintain and follow an auditable quality process including documentation requirements, development, training, testing and continuous improvement which is periodically audited by an independent outside auditor.

We contract with third parties in China to undertake high volume assembly and manufacturing of our handsets and we conduct final assembly, testing and packaging at our own facilities. In addition, we generally use third parties for high volume assembly of circuit boards. HonXun Electrical Industry in Hangzhou, a subsidiary of Foxconn Group, manufactures our PAS handsets; Eastcom Communications manufactures our PAS handsets; and Shanghai Jingling Electronic manufactures line cards for our IP-ADSL product.

We have also contracted with Mitsubishi Electric Corporation to provide PAS wireless base station components for distribution under the UTStarcom label. Other suppliers include Wistron NeWeb Corporation and Sanyo Electric Co., Ltd., which provide handsets under the UTStarcom label. Our AN-2000 product line integrates some third party products for subscriber premises equipment and testing. In China, we undertake final assembly and test our wireless infrastructure products at our own facilities and have recently begun to manufacture some of these products ourselves.

STRUCTURE AND REGULATION OF THE TELECOMMUNICATIONS INDUSTRY IN CHINA

Structure of China's Telecommunications Industry. Historically, the China Telecom system was the sole provider of public telecommunications services in China. In 1993, the State Council, in an effort to promote competition, began issuing licenses to new telecommunications operators including China United Telecommunications Corporation, or Unicom, a provider of mobile communication services, and Jitong Communications Co., Ltd., a provider of data communications and Internet access services.

In February 1999, the State Council approved a restructuring plan for the China Telecom system, under which the telecommunications operations of the China Telecom system were separated along four business lines: fixed line, mobile, paging and satellite communications services. Following the announcement, we observed a reduction in orders from Telecommunications Companies, which we attributed to the uncertainties surrounding the restructuring and the ultimate impact the restructuring would have on the Telecommunications Companies.

The Ministry of Information Industry confirmed in December 2001 that the State Council had approved a plan to restructure China Telecom. The Ministry of Information Industry has been authorized to execute the plan. China Telecom was split into two regional entities. The assets of the present China Telecom in North China's Beijing and Tianjin municipalities, the Inner Mongolia Autonomous Region and Hebei and Shanxi provinces, Northeast China's Liaoning, Jilin and Heilongjiang provinces, Central China's Henan Province and East China's Shandong Province were merged with China Netcom Co. Ltd. and China Jitong Network Communications Co. Ltd. The new company was named China Netcom Group Corp., or New CNC. China Telecom's assets in the other 21 provinces, municipalities and autonomous regions retained the brand name and intangible assets of the old China Telecom. We refer to this entity as the New China Telecom. The New CNC inherited 30% of the old China Telecom's national backbone network, with the rest going to the New China Telecom. As this change is relatively recent and its implementation is ongoing, we cannot be certain what the final impact of this restructuring will be on our business operations. However, we may experience a decline in orders and related revenues during such restructuring as a result of uncertainty among our customers presently operating under China Telecom.

New CNC and New China Telecom will continue to operate through each of their own regional networks of approximately 2,400 local level telephone companies called Telecommunications Bureaus. Telecommunications Bureaus are responsible for purchasing, installing and operating the voice and data communications services in their local markets. Local telephone companies are funded by their own operational revenue from local telephone charges, a portion of shared long distance revenue through settlement, and headquarter allocation and cross subsidy, particularly in remote and poor regions. Among the funding sources, local revenue accounts for the majority of the revenue for local telephone companies.

In November of 2002, China Telecom and four of its subsidiaries became listed on the Hong Kong and New York stock exchanges.

Government Regulation of the Telecommunications Industry. The China telecommunications industry is regulated at the national, provincial and local levels. At the national level, the Ministry of Information Industry regulates the industry. The Ministry of Information

Industry was established in March 1998 to assume the regulatory, administrative and other governmental duties of the former Ministry of Posts and Telecommunications. The Ministry of Information Industry has broad discretion and authority to regulate all aspects of the telecommunications and information technology industry in China, including managing spectrum bandwidths, setting network equipment specifications and standards and drafting laws and regulations related to the electronics and telecommunications industries. Additionally, the Ministry of Information Industry can decide what types of equipment may be connected to the national telecommunications networks, the forms and types of services that may be offered to the public, the rates that are charged to subscribers for those services and the content of material available in China over the Internet. Based on our industry experience, we believe that the Ministry of Information Industry's general telecommunications equipment strategy is to ensure that China's infrastructure is based on advanced open architectures that are expandable, cost efficient and quickly deployed.

The Ministry of Information Industry also oversees the 31 Telecommunications Administrations that have regulatory responsibility over the telecommunications industry in their respective provinces. In China today, each Telecommunications Administration approves a subset of telecommunications products that meet Ministry of Information Industry standards from which Telecommunications Bureaus can then select the specific products they purchase, install and operate. Although historically the Ministry of Information Industry has shared regulation and operation of China's telecommunications industry with the China Telecom system, as part of the Chinese government's industry restructuring, the regulatory functions of the Ministry of Information Industry and the Telecommunications Administrations have been separated from the operational functions of the state-owned Telecommunications Bureaus under their control. The Ministry of Information Industry acts exclusively as the industry regulator and the local Telecommunications Bureaus act exclusively as operators. Given the multi-level regulatory environment, equipment providers in China must generally market intensively to all three levels of the communications industry.

Statutory Framework. China does not yet have a national telecommunications law. However, with China's recent entry into the World Trade Organization, or WTO, the Ministry of Information Industry, under the direction of the State Council, must present a draft Telecommunications Law of the People's Republic of China for ultimate submission to the National People's Congress for review and adoption. In order to comply with the WTO, subsets of draft telecommunications regulations were published in December 2001. One of the most significant of the draft regulations is the "Regulation of Foreign Investment over Telecom Enterprises." In December 2001, the State Council promulgated the Provisions on the Regulation of Foreign Invested Telecommunications Enterprises, which lifts the restrictions on foreign investment in the telecommunication industry, subject to certain equity ratio and geographic limitations. Also in December 2001, the Ministry of Information Industry issued the Measures on Regulation of Telecommunication Business Operation Permits, which details the procedures for obtaining permits for the operation of telecommunications businesses and makes it possible for those conducting telecommunications business to obtain the relevant permits. As we provide equipment rather than services, these two regulations should not have a direct effect on our business. Nevertheless, as the two regulations came into effect only recently, we are uncertain whether we will be indirectly affected by the impact of the two regulations on telecom service providers.

Currently, the governing regulation over telecommunications in China is the Telecommunications Regulations of the People's Republic of China issued by the State Counsel in September 2000. This set of regulations is known as the Telecom Regulations. The Telecom Regulations govern

telecommunications services and market regulations, pricing, interconnection and connection, as well as telecommunications construction and security issues. These regulations are not very detailed, have not been applied by a court and may be interpreted and enforced by regulatory authorities in a number of different ways. As with the Telecommunications Law, we are uncertain what effect, if any, the Telecom Regulations will have on our business as presently conducted.

Licenses for Communication Equipment. Beginning January 1, 1999, China's government required that all telecommunications equipment connected to public or private telecommunications networks within China, which includes equipment that we sell in China, be approved by the Ministry of Information Industry, and the manufacturer of the equipment obtain a network access license for each of its products. Subsequently, the State Council issued the Telecom Regulations in September 2000. In May 2001, the Ministry of Information Industry issued the Administrative Measures of Network Access Licenses, known as the Access License Measures, to implement the Telecom Regulations and to replace the old access license regulation. Both the Telecom Regulations and the Access License Measures require the government to implement license systems for telecommunications terminal equipment, wireless communications equipment and equipment used in network interconnection that is connected to public telecommunications networks. The above equipment must meet government and industry standards, and a network access license for the equipment must be obtained. Without the license, the equipment is not allowed to be connected to public networks or sold in China. The Telecom Regulations require that manufacturers ensure that the quality of thetelecommunications equipment for which they have obtained a network access license is stable and reliable, and they may not lower the quality or performance of other installed licensed products. The State Council's product quality supervision department, in concert with the Ministry of Information Industry, performs spot checks to track and supervise the quality of telecommunications equipment for which a network access license has been obtained and publishes the results of such spot checks.

The regulations implementing these requirements are not very detailed, have not been applied by a court and may be interpreted and enforced by regulatory authorities in a number of different ways. We have obtained the required network access licenses for our AN-2000 platform. We have applied for, but have not yet received, a network access license for our PAS system. Based upon conversations with the Ministry of Information Industry, we understand that our PAS system is considered to still be in the trial period and that sales of our PAS system may continue to be made by us during this trial period, but a license will ultimately be required. Network access licenses will also be required for most additional products that we are selling or may sell in China, including our mSwitch platform. If we fail to obtain the required licenses, we could be prohibited from making further sales of the unlicensed products, including our PAS system, in China, which would substantially harm our business, financial condition and results of operations. Our counsel in China has advised us that China's governmental authorities may interpret or apply the regulations with respect to which licenses are required and the ability to sell a product while a product is in the trial period in a manner that is inconsistent with information received by our counsel in China, either of which could have a material adverse effect on our business, financial condition and results of operations.

Software Registration. On October 27, 2000, the Ministry of Information Industry issued the Administrative Regulations on Software Products, known as the Software Regulations, to enhance software product management and stimulate the development of the software industry in China. Under the Software Regulations, the government imposes a registration and filing system on software and products incorporating software. Software cannot be produced and sold in China without registration and filing. The developers and producers of the software are responsible for the registration and filing of domestic software products. Registration under the Software Regulations is valid for five years and can be renewed upon expiration. The Ministry of Information Industry is responsible for the overall management of software. The local offices of the Ministry of Information Industry at the provincial level are responsible for the management and examination of and approval for the registration of the

domestic software within their own territories. The designated agencies authorized by these local offices are responsible for acceptance for registration of software. Before registration is approved by the government agencies, software products need to be tested by the authorized testing institutions.

We have accomplished the necessary registration with regards to the software incorporated in our AN-2000, PAS and mSwitch products. However, additional registration is required for software incorporated in additional products that we are selling or may sell in China. Based upon verbal advice received from the Ministry of Information Industry, we believe that we will be able to continue to sell our products incorporating our software during the period in which these regulations are being implemented and our application is pending. However, this implementation period may not last long enough for us to complete the registration of our software. Moreover, the Chinese government may interpret or apply the Software Regulations in such a way as to prohibit sales of products incorporating our unregistered software prior to registration. If the government prohibits sales pending registration, or if we fail in our efforts to register our software, we could be prohibited from making further sales of products incorporating the unregistered software in China, which could substantially harm our business and financial condition.

COMPETITION

We face intense competition in our target markets and expect competition to increase. Our principal competitors in our various product lines include:

mSwitch: Alcatel Alsthom CGE, S.A.; Cisco Systems, Inc.; Clarent Corporation; Ericsson LM Telephone Co.; Huawei Technology Co., Ltd.; Lucent Technologies, Inc.; Motorola, Inc.; Nokia Corporation; Nortel Networks Corporation; Nuera Communications, Inc.; Siemens AG; Sonus Networks, Inc.; and Zhongxing Telecommunications Equipment.

PAS systems and handsets: Lucent Technologies, Inc. and Zhongxing Telecommunications Equipment.

AN-2000: Advanced Fibre Communications, Inc.; Alcatel Alsthom CGE, S.A.; Datang Telecom Technology Co. Ltd.; Huawei Technology Co., Ltd.; Lucent Technologies, Inc.; and Zhongxing Telecommunications Equipment.

3G: potentially, we will compete with Ericsson LM Telephone Co.; Huawei Technology Co., Ltd.; Lucent Technologies, Inc.; Motorola, Inc.; Nokia Corporation; Nortel Networks Corporation; Siemens AG, Alcatel Alsthom CGE, S.A.; Zhongxing Telecommunications Equipment.

We are increasingly facing competition from domestic companies in China. We believe that our strongest competition comes from these companies, many of which operate under lower cost structures and more favorable governmental policies and have much larger sales forces than we do. Furthermore, other companies not presently offering competing products may also enter our target markets, particularly with the reduction of trade restrictions as a result of China's admission to the WTO. Many of our existing and potential competitors may have significantly greater financial, technical, product development, sales, marketing and other resources than we do. As a result, our competitors may be able to respond more quickly to new or emerging technologies and changes in service provider requirements. Our competitors may also be able to devote greater resources than we can to the development, promotion and sale of new products and offer significant discounts on handsets or other products. These competitors may also be able to offer significant financing arrangements to service providers, in some cases facilitated by government policies, which is a competitive advantage in selling systems to service providers with limited financial and foreign currency resources. Increased competition is likely to result in price reductions, reduced gross profit as a percentage of net sales and loss of market share, any one of which could materially harm our business, financial condition and results of operations.

Moreover, current and potential competitors have established or may establish cooperative relationships among themselves or with third parties, including Telecommunications Administrations, Telecommunications Bureaus and other local organizations, to increase their ability to address the needs of prospective customers in our target markets. Accordingly, alliances among competitors or between competitors and third parties may emerge and rapidly acquire significant market share. To remain competitive, we believe that we must continue to partner with Telecommunications Administrations and other local organizations, maintain a high level of investment in research and development and in sales and marketing, and manufacture and deliver products to service providers on a timely basis and without significant defects. If we fail to meet any of these objectives, our business, financial condition and results of operations could be harmed.

The introduction of inexpensive wireless telephone service or other competitive services in China may also have an adverse impact on sales of our PAS systems in China. We may not be able to compete successfully against current or future competitors. In addition, competitive pressures in the future may materially adversely affect our business, financial condition and results of operations.

We believe that the principal competitive factors affecting the market for our network access products include:

total initial cost of solution;

for PAS, the availability, cost and functionality of our handsets;

short delivery and installation intervals;

design and installation support;

ease of integration with the backbone network;

flexibility in supporting multiple interfaces and services;

operational cost and reliability; and

manageability of the solution and scalability.

We may not be able to compete effectively against current and future competitors based on these or any other competitive factors in the future, and the failure to do so would have a material adverse affect on our business, financial condition and results of operations.

INTELLECTUAL PROPERTY

Our ability to compete is dependent in part on our proprietary technology. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as confidentiality agreements and licensing arrangements, to establish and protect our proprietary rights. To date, we have relied primarily on proprietary processes and know-how to protect our intellectual property. We presently hold three U.S. patents and one Taiwanese patent for existing products. The terms of one of the United States patents will expire in 2016, while the terms of the remaining United States patents will expire in 2019. The Taiwanese patent will expire in 2020. We have submitted 35 additional U.S. patent applications and 29 foreign patent applications. In addition, we have, from time to time, chosen to abandon previously filed applications. Patents may not issue and any patents issued may not cover the scope of the claims sought in the applications. Our U.S. patents do not afford any intellectual property protection in China or other international jurisdictions. Moreover, we have applied for but have not yet obtained patents in China and Taiwan. We may not be able to obta