

For the period covered by this plan, the data communications sector deserves increased attention, given its lower level of maturity. For the moment, the data communications infrastructure is being developed largely for use by government ministries or large state enterprises. The data infrastructure appears to be driven more by government plan than by market forces. While working at developing its basic data transmission infrastructure, China is also proceeding with plans to establish a nation-wide frame relay network. Despite the lack of immediate market demand for applications requiring high-capacity data transmission, such as tele-medicine and distance learning, the MPT is also contemplating the option of developing an ATM (Asynchronous Transfer Mode) network.

Hong Kong

The Hong Kong telecommunications market is among the most advanced in the world. Its role as an international commercial centre and high-cost work environment, has created potential opportunities in the mobile communications and advanced data sectors, including video-conferencing. In addition, Hong Kong continues to play an influential role in the development of specialized telecommunications applications as they pertain to banking, Electronic Data Interchange (EDI) and credit card applications, which are experiencing the fastest growth. Market analysts also predict a surge in demand for customized applications such as video-on-demand.

Constraints

The MPT has identified financing as the main challenge for the development of China's telecommunications network. More recently, some

observers have suggested that the ban imposed on foreign investment or involvement in the operation of domestic telecommunications businesses has been informally relaxed, to a degree. Build and transfer (BT) arrangements involving foreign companies have been implemented. The State Council has recently authorized, on a trial basis, direct investment by foreign firms in telecommunications joint ventures with China Unicom, under the condition that their stakes remains at less than 50 percent.

There have also been indications that foreign investment in the value-added telecommunications services sector may be tested on a pilot basis before the year 2000.

The rapid increase in the quantity and quality of local and joint venture production of telecommunications components has had a negative impact on imports of certain equipment.

In addition, the evolving and uncertain regulatory framework and the complexity of the approval process constitute a major challenge for companies interested in Internet services.

Computers and Software

Business Environment

China's computer market is hardware-driven and personal computer (PC) centric. It will take time and a change in behaviour for the software market to flourish, or for customers to buy services. In 1996, close to 2 million computers were sold in China, of which more than 40 percent were imported. A large majority of these computers are purchased by government organizations. Forecasts indicate that the market could reach 3 million units in 1997.

Market Opportunities

Opportunities for Canadian companies mainly lie within the software sector. Implementation of the "Golden Projects" is generating the need for advanced software tools in sectors such as education and finance. Educating all those who may be affected by or benefit from its implementation is key to the introduction of a new software in China.

Similarly, in Hong Kong the market for advanced software-based applications for business and government services remains strong. The escalating cost of doing business in Hong Kong has also created a potential opportunity for offshore processing of financial and other business services in Canada.

Constraints

Pressure on foreign companies to establish joint ventures and allow technology transfer is high in the computer and software sector. An under-developed software industry makes it difficult to identify the right distribution channel. Further, intellectual property problems are still of special concern in China. In most cases, Canadian software must be tailored to meet the needs of this market.

The 14 Golden Projects are the key components of the Chinese national information infrastructure initiative. The most important of these projects are the Golden Bridge (a nation-wide economic information and data communications network linking ministries, commissions and provinces); the Golden Customs (a foreign tax network based on an EDI platform and an import-export database, to monitor foreign currency settlements, domestic returns and quota-management systems); and the Golden Card (an electronic financial transaction system and information service).

Space

Business Environment

China's space program is largely focussed on satellite communications (satcoms). Roughly half of the 20 satellite programs included in China's Ninth Five-Year Plan will be telecommunication satellites, while the other half will consist of earth observation satellites. China's satellite launching program successfully resumed in May 1996, following the failure of two communications satellites (ApstarII and Intelsat) during launches in 1995 and early 1996. The recent successful launch of Dongfanghong-3 in May 1997 and the construction of Sinosat, a data communication satellite co-produced by China, Germany and France, could result in a decrease in future satcoms purchasing plans.

In addition to satcoms, China is also developing earth observation satellites, in an effort to help predict and mitigate natural disasters and optimize resources and land management.

The major players in the China satellite market are the China Aerospace Corporation (CASC), the Commission on Science and Technology in National Defence (COSTIND), satellite owners such as China Oriental Telecom Satellite Company Ltd., Very Small Aperture (VSAT) licence holders, and other service users.