



## Chapter 4

A Snapshot of ICT in Trinidad & Tobago - 2003

*ICT. Connecting People,  
Communities and Countries*



*e-Readiness is the degree to which a community is prepared to participate in the global information society.*

## 4. A SNAPSHOT OF ICT IN TRINIDAD AND TOBAGO - 2003



### Background to e-Readiness

Before any country commences on a comprehensive connectivity program, it is important to understand its current level of “e-Readiness”. e-Readiness is the degree to which a community is prepared to participate in the global information society, and is gauged by assessing areas that are most critical to the adoption of Information and Communication Technology (ICT).

As an integral part of Trinidad and Tobago’s National ICT Strategy, the e-Readiness Assessment examined five areas that mirror the five Working Groups established by the ICT Steering Committee:

- Infrastructure
- Human Resources
- Economy and Finance
- Government
- Legal and Policy

The framework for this analysis was adapted from “Readiness for the Networked World: A Guide for Developing Countries” – an internationally recognised methodology published by the Center for International Development at Harvard University. Additional data to support the findings and conclusions came from a variety of sources including:

- “National E-Commerce Strategy for Trinidad and Tobago, 2004-2010” by the National E-Commerce Secretariat;
- “Government e-Readiness Survey”, by the e-Government Unit of the Ministry of Public Administration and Information;
- “Survey on ICT Usage in Trinidad and Tobago”, by MORI ; and
- “Utilisation of Information Technology by Households in the Republic of Trinidad and Tobago”, by the National Institute Of Higher Education Research Science and Technology (NIHERST).



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At the outset, it is important to understand that Trinidad and Tobago is already an active member of the global information society. It is currently ranked 58<sup>th</sup> (out of 82 countries) in the World Networked Readiness Index published annually by the World Economic Forum. This year, Trinidad and Tobago slipped to 58<sup>th</sup> position from a 2001-2002 ranking of 46<sup>th</sup>. This emphasises the point that although the country is making progress in terms of connectivity, it is not progressing quickly enough, or with sufficient coordination, to avoid being overtaken by other nations. Trinidad and Tobago's integrated National ICT Strategy will go a long way towards accelerating the country's connectivity agenda and should assist in strengthening its Networked Readiness Index ranking in the coming years.

Detailed analysis regarding Trinidad and Tobago's current level of e-Readiness can be found at Appendix A and an international ICT Benchmarking Assessment can be found at Appendix B.

## **Trinidad and Tobago's Level of e-Readiness - 2003**

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### ***Infrastructure***

Trinidad and Tobago currently has in place a level of infrastructure that satisfies the basic needs of a country embarking on a major connectivity agenda. It has a reliable telephone network that covers virtually all parts of the country. Call completion is high at 98%, and with only 4-6 faults per 100 main telephone lines, it scores very well in terms of network quality and reliability. Over three-quarters of all homes have telephones.

Network speed is less encouraging however. Most of the country has a maximum dial-up speed of 56kbps although there are some areas that benefit from Integrated Services Digital Network (ISDN) services and Asymmetrical Digital Subscriber Line (ADSL) service coverage and accompanying speeds of 64-256kbps. A small number of leased lines can offer high-speed access of up to 1.5Mbps, but the level of benefit often does not justify the significantly increased monthly expense.



The people of Trinidad and Tobago have fully embraced the revolution in cellular telephones. There is now thought to be in excess of 450,000 cellular phones in the country – an increase of over 60,000 within the last six months. Cellular phones are now used by about 50% of the adult population.

At this time the primary medium for communication remains the telephone. About one in three persons has Internet access, and about one in five who has access use the Internet every day. This usage is considered low. There appears to be a number of factors for this. With virtually all hardware and software being imported at world prices, the cost of personal computers is high in comparison to average income levels. Consequently in 2002, only a small percentage of households (~16%) have computers. Internet access charges are also high (~TT\$125 for 50 hours), and with only modest network speeds currently available users are generally limited to sending e-mails or web browsing. Not surprisingly, only 9% of the population consider themselves to be “regular Internet users” (i.e., use the Internet several times a week) – most still prefer to use telephones (fixed or mobile) for communication. However, among those who do not have access to the Internet, and would want some Internet-related service at a community centre, 76% would be willing to pay \$TT10 per hour to access the Internet at a community access point.

It is a very similar story within the T&T business community. Although 87% of companies have PCs and Internet access through telephone dial-up, very few companies (with the exception of the major industries) have invested in dedicated data lines or extensive office automation. As there are only a small number of consumers currently on-line, there is little rationale for companies to use the Internet as a business medium. Most are using it for e-mail and for a basic web presence, i.e., static web sites.

### ***Human Resources***

Use of computers and Internet technology remains very limited among the general public due to a number of factors: minimal ownership of personal computers (~16%), scarcity of public access centres for those who cannot afford computers, and high costs associated with Internet access. Although a few initiatives have been started, there is currently no coordinated efforts to introduce a comprehensive community access programme, however there are several Internet cafes available in parts of the country and TSTT has provided access to the Internet at libraries and some post offices. There is only a limited amount of local content

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(health, education, culture, safety, employment etc.) on websites, which may also account for reduced take-up rates.

The use of ICT in the workplace is also fairly limited. Although virtually all businesses have computers and access to the Internet via telephone dial-up, a significant number of employees share computers and only a few have personal e-mail addresses for use in the work environment.

There are approximately 636 schools in Trinidad and Tobago. It is not clear exactly how many schools have Internet access at this time – however it is not a large number. A small number of secondary schools have some form of “computer laboratory”, and a pilot programme for seven additional schools is currently underway. The Secondary Education Modernisation Programme (SEMP) plans to network an additional 81 schools by September 2003. Higher education institutions do benefit from a greater degree of ICT sophistication.

Currently, there is incomplete information available regarding the level of ICT education included in the general curricula; however, the importance of ICT education and training, and its role in ensuring a sustainable connectivity agenda, is widely understood. Fortunately, ICT is seen by 95% of the population as an appealing career for young people, above medicine (91%), accounting (90%) and law (85%).

The ICT sector in Trinidad and Tobago is a developing but fledgling one at present, with a small number of skilled IT workers (~3000). The general workforce in T&T understands the importance of having ICT related skills. However with only a few positions available, and with the high cost of training and certification, despite ICT being viewed as an attractive career, many are concerned that the resulting employment opportunities are not forthcoming. With only a limited number of ICT positions available, Trinidad and Tobago must guard against the danger of losing many of its talented ICT professionals to other countries, including CARICOM countries.



### ***Economy and Finance***

Virtually all companies in Trinidad and Tobago have the basic requirements for Internet service, i.e., Computers and Internet access through the telephone. But, as there is only a very small percentage of the population currently using the Internet there is little reason for businesses to be using it as a medium for client interaction. As a result, the Business to Consumer (B2C) marketplace in T&T is underdeveloped at this time. Many companies have simple websites that offer browsing for consumers but there is extremely little in the way of on-line sales functionality. The small numbers of consumers who do visit company websites as part of the purchasing process are primarily using it for price and product comparison, and are still making the final purchase in a traditional manner. Public concerns about on-line privacy and security may also be barriers to increased levels of B2C interaction.

Outside of the major institutions, there is very little evidence of a Business to Business (B2B) marketplace in Trinidad and Tobago. Most of the SME sector still source and acquire buyers and suppliers through previous relationships, word of mouth and Yellow Pages. More sophisticated forms of electronic business, Customer Relationship Management, e-Procurement, Supply Chain Management etc. are virtually non-existent.

ICT employment opportunities are currently very narrow – particularly with SMEs. Most of the country’s 3000 positions reside in the IT/Telecom sector, the Financial Services Sector, or with Government. Salaries for experienced professionals can be high in comparison to GDP, however the threat of a “brain drain” in the ICT sector remains very real.

### ***Government***

The Government of Trinidad and Tobago is in the very early stages of its e-Government agenda. The vast majority of government services are provided in-person and information is stored primarily in paper files or on desktop computers.

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Approximately 50% of Ministries have websites, but these sites lack a government-wide “common-look-and feel”. Most websites provide static information, but not necessarily packaged around the needs of the end user. Some Ministries have simple downloadable forms that can be printed, completed and mailed in, but none offers extensive on-line transactions at this time. Unfortunately only 5% of the population currently prefers to pay for government services via the Internet at this time.

The Ministry of Public Administration and Information is currently developing an e-Government Strategy as part of a broader Public Sector Modernisation Program. The e-Government Strategy will examine the design and development of a full suite of electronic services and products tailored around the specific needs of citizens, businesses and visitors to the country. Work has started on a public service-wide email, messaging and scheduling system – Phase 1 of a Communications Backbone initiative.

### *Legal and Policy*

Telecommunications Services of Trinidad and Tobago (TSTT) is the country’s incumbent telecommunications operator. TSTT is 51% owned by the Government and is currently the dominant local telephony carrier. Competition exists in all non-voice domestic services such as Internet, paging, wireless and data. All international voice traffic is currently carried by TSTT.

There are currently nine established Internet Service Providers (ISPs) in T&T. However it is widely felt that an inadequate competitive environment currently exists and that this is restricting price, quality and service in the telecom and ISP sectors. There has been a level of pressure applied to Government in recent years with a view towards accelerating liberalisation of the telecommunications sector.

Trinidad and Tobago has carried out a significant amount of preparatory work readying its legislation and policy for increased levels of ICT usage. It has a modern Telecommunications Act (2001), which provides for the establishment of a comprehensive legal framework for an open telecommunications sector. It has the Computer Misuse Act 2000 that deals with unauthorised access, use or interference with computers and other related matters; and The Electronic Transfer of Funds (Crime) Act 2000 that regulates the transfer of money by an

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electronic terminal, by use of a card, for the purpose of instructing or authorising a financial institution to debit or credit a cardholder's account when anything of value is purchased.

Additional work has been carried out in drafting the Electronic Transactions Bill 2001 that sets the basic framework for the legal recognition of electronic records and transactions. Drafting was completed on The Data Protection Bill 2001 that seeks to protect an individual against disclosure of his personal information except in certain prescribed conditions.

The Legal Team in the Ministry of Public Administration and Information is currently addressing a wide range of ICT enabling issues such as Jurisdictional Conflicts, Anti-Competitive Practices, Internet Taxation, Intellectual Property Protection, Consumer Protection, E-Commerce Act and the Management of Domain Names.

## e-Readiness Findings

In terms of ICT development, Trinidad and Tobago represents a perfect reflection of the small-island developing state as portrayed in the 2002 study "Networked Readiness and Small Island Developing States", by Geoffrey S. Kirkman, of the Center for International Development at Harvard University. These characteristics are:

- Some elements of development in network access and infrastructure build out
- Strong use of fixed line and cellular telephone service
- Low general Internet usage, mirrored by low availability of business and government online services
- Lagging in telecommunications liberalisation, affecting competition, price and quality of service
- No definitive broadband policy

Due to a variety of historical and economic circumstances, T&T finds itself in somewhat of a "negative supply-and-demand cycle" of ICT usage:

### *Desire*

- Development of a knowledge-based society leading to increased social and economic development through enhanced levels of

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connectivity and electronic interaction at a domestic, regional and international level.

*Challenge*

- Cost of PC ownership, Internet access and affordability issues and slow speed/limited bandwidth results in only limited numbers of the general public utilising the capacity offered by the Internet.

*Effect*

- Most businesses see little value in offering products and services on-line as there are few consumers currently using the Internet for commerce.
- Restrictive bandwidth reduces benefits of delivering more sophisticated business-to-business transactions.
- The Electronic Marketplace remains underdeveloped and provides even less incentive for consumers and businesses to go on-line.

*Outcome*

- ICT development impasse and increased potential for brain-drain of ICT professionals.

## Connecting to the Future

The e-Readiness Assessment and Benchmarking Analysis provided a realistic overview of ICT preparedness in Trinidad and Tobago. Using this as a baseline, and the strategic outcomes as future targets, each of the Working Groups set about developing Action Plans to transition the country towards increased levels of connectivity and tangible enhancements in social and economic development.