

**ZAMBIA TRADE AND INVESTMENT ENHANCEMENT
PROJECT (ZAMTIE)**

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ZAMBIA E-COMMERCE ASSESSMENT

by

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ZAMBIA E-COMMERCE ASSESSMENT

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TABLE OF ACRONYMS

B2B -- business to business

B2C -- business to consumer

B2G -- business to government

CA – Communications Authority

EBZ – Export Board of Zambia

ICT – Information and communication technologies

ISP – Internet service provider

MCTI – Ministry of Trade, Commerce, and Industry

NICI – National Information and Communication Infrastructure

PDA – Personal digital assistants

PSTN – Public switched telephone network

USAID – U.S. Agency for International Development

VAT – Value-added tax

ZACCI – Zambian Chamber of Commerce and Industry

ZAMTIE – Zambia Trade and Investment Enhancement (Project)

Part 1: Introduction

1.1 How the ICT revolution is affecting prospects for global trade and economic growth

As historians have observed, the accumulated effects of technological change during various periods of time have altered the lives of mankind in very significant ways. In the distant past, the discovery of new ways of extracting higher yields of food from the earth -- collectively referred to as the agricultural revolution -- made it possible for more people to live in the same area, giving rise to cities and the forms of civilization that could be supported by urban societies. In more recent centuries, the harnessing of mechanical and electrical power gave rise to the industrial revolution. Most recently, the world has moved into another revolutionary period -- the information age -- with mind-boggling speed and hard-to-imagine consequences.

The ICT revolution is being driven by the development of a vast array of new digital technologies, remarkable advances in computer hardware and software, a seemingly never-ending array of new communication and information processing devices, and the rapid deployment of new communications networks. At the core of the ICT revolution lies the Internet with its capabilities for linking the world together in a vast World-Wide-Web or communications network, speeding the flow of communications and knowledge, eliminating time and distance constraints, and opening up new possibilities for achieving global prosperity. As the Internet becomes more pervasive, traditional factors of production--capital and skilled labor--are no longer the main determinants of the power of an economy. In the present era, economic potential is increasingly linked to the ability to access, control and manipulate information.

At this point in time, we can only speculate on the nature and magnitude of the economic changes that the ICT revolution will produce. A recent economic study has predicted that effective policies toward the Internet and electronic commerce could generate increases over the next decade of \$400 billion in the level of US GDP and increases of 5 percent for the industrialized world as a whole. Significant changes in the policy and economic environment could yield GDP increases of \$100 billion for developing countries in Asia, \$45 billion in Latin America and similar amounts

for Africa. (Catherine L. Mann, Sue E. Eckert, and Sarah Cleveland Knight. *Global Electronic Commerce, 2001*).

Along with all the other changes it is producing, the ICT revolution is dramatically altering global business operations and prospects for international trade. E-mail is becoming the standard channel for routine business communications. The Web is becoming a major source of business information and a prime vehicle for advertising and promoting products. The volume of online business transactions is growing rapidly and is providing firms with new channels for marketing and sourcing products and services. Traditional barriers to international trade -- information barriers, communication barriers, and the effects of time and distance -- are beginning to fade as the information and communications revolution spreads throughout the globe.

In this emerging information economy, business managers around the world are being forced to learn a new vocabulary and new ways of doing business. Rather than business as usual, managers are struggling to come to grips with e-commerce and e-business -- using Internet technologies to transact business and improve and transform key business processes.

Currently, the volume of global e-commerce transactions is approaching \$6.5 billion per year. Within five years, the volume of such transactions is projected to swell to over \$2.0 trillion per year. As global e-commerce expands, companies world-wide are facing growing pressures to acquire e-business and e-commerce capabilities or risk losing out on some of the prime growth opportunities of the new century. Acquiring e-commerce capabilities prepares companies to compete and win in an increasingly demanding global marketplace. Such capabilities are becoming a prime requirement for achieving global competitiveness.

1.2 The importance of the Internet and e-commerce applications for Zambian exporters

As internet infrastructure and use expands around the world, the competitive balance among different nations is being altered in significant ways. Countries with more companies connected to the internet are gaining important competitive advantages over firms in countries where internet use by businesses is lagging. The fate of firms in these lagging countries is similar to what happens to companies along a state highway when a new, high-speed

superhighway is constructed. As firms in leading countries position themselves along the information superhighway, competitors that are slow to similarly position themselves are consigned to the backwaters of global commerce.

For Zambian companies, the emerging information economy offers both opportunities and threats. Opportunities offered by the Internet include:

- Reduced communications costs. Communications costs are a major operating expense for companies involved in international commerce. For Zambian companies, current costs of international communications --for voice and fax --are very high by world standards. This places Zambian exporters at a competitive disadvantage vis-à-vis exporters in countries where communications costs are lower.
- Improved access to global markets. By taking advantage of Internet technologies, Zambian exporters can obtain up-to-date market intelligence and take advantage of windows of opportunity that may only be available for brief periods of time. It provides a means of accessing a global network of buyers and suppliers and overcoming the limitations of local markets.
- Better relationships with buyers and suppliers. The Internet makes it possible to improve communications and maintain relationships with overseas buyers, suppliers, and service providers. Such relationships are critical to the management of import and export operations.

The principal threat that the internet poses for Zambia lies in the potential for losing out to competitors in other countries that are able to master Internet and e-commerce technologies more rapidly and use them as a means of acquiring market share, lowering production costs, and gaining other competitive advantages in the global marketplace.

1.3 What do companies require in order to develop e-commerce and e-business capabilities?

To engage in e-commerce in its various forms -- business to business (b2b), business to consumer (b2c) or business to

government (b2g) -- companies need several things:

First, they must have access to the basic tools and systems of the information age. These include:

- Computers and information appliances at affordable prices.
- Internet connectivity at reasonable rates (including connection charges plus telephone charges)
- An underlying telecommunications infrastructure that is capable of supporting digital data transmission and internet services with reasonable quality and transmission speeds.

Second, they need to be able to access a variety of different types of services and support to enable them to plan, implement, and manage e-business or e-commerce operations. Critical types of services and support include:

- Internet services -- Internet access through dial-up accounts, leased lines, or wireless connections.
- Web design and hosting services
- Information services and content management
- Transactions tools
- Online payment processing and security applications
- Other computer services (repair and maintenance, programming, networking services, etc.)

Third, the business environment in which companies and service providers operate must be relatively stable and provide sufficient incentives for investments in new technologies, business processes, infrastructure, and services. Among other things, this assumes

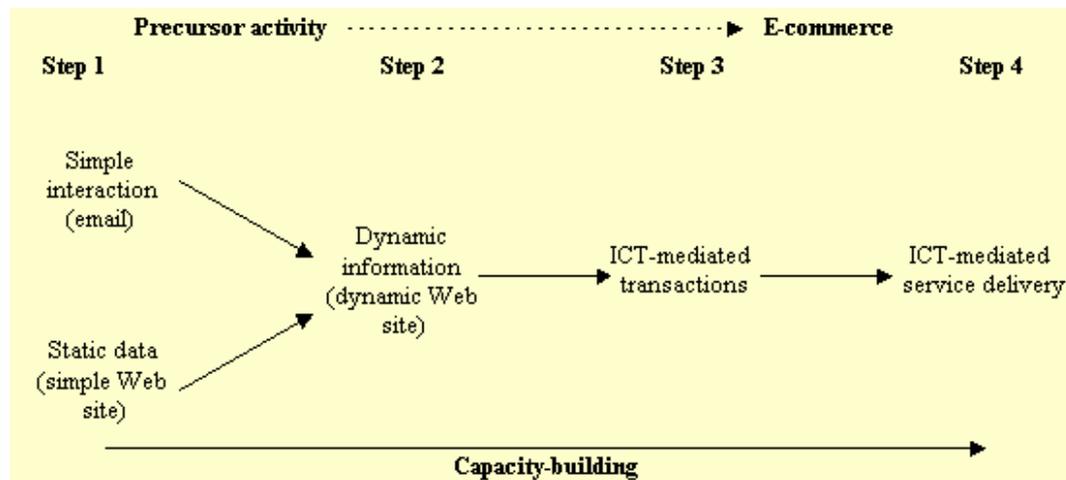
- Clear, transparent rules and regulation
- Minimal government interference (elimination of unfair competition from government monopolies, minimal bureaucratic impediments, minimal barriers to entry for new firms or new services)
- Tax policies that are fair and reasonable
- Incentives for investments in new technologies, ICT infrastructure, and services
- A willingness of government to respond in a flexible manner to adjust policies or remove regulatory constraints affecting the growth of e-commerce operations and services.

Fourth, companies must be willing to invest in efforts to acquire e-

business/e-commerce capabilities, including staff recruitment, training, business process engineering, business planning, and systems development and deployment.

In acquiring these capabilities, companies typically pass through a number of stages. The following diagram provides a simple outline of the various steps that firms generally take as they seek to acquire e-business capabilities.

Steps in acquiring e-business capabilities



(Source: Richard Heeks. Analysing E-commerce for Development. IDPM, University of Manchester, UK, 2000)

1. Stage 1 -- First steps

1. Awareness -- Company becomes aware of advantages of employing ICT and e-commerce applications in business operations

2. Basic ICT skills -- company is using computers and modern communication tools to improve productivity of business operations.

3. Internet connectivity -- company decides to sign up for an Internet account and begins to use basic internet applications including:

- E-mail -- Electronic mail, telephony and even fax are all available at increasingly lower costs using the Internet, but implementing this technology and benefiting from the initial investment and subsequent costs savings requires that the

firms' employees are effectively trained.

- Simple information searches -- gathering business intelligence.
- Basic websites, brochure-ware.

Stage 2 -- Dynamic information, dynamic web sites

- Using the Internet to interact with customers -- developing dynamic websites, interactive services, extranets, opt-in email lists, newsletters.
- E-marketing -- using online tools to support marketing and sales activities.
- Expanding Internet access within the enterprise -- knowledge management, information sharing, development of intranets-- internet based research, collection of customer data and subsequent analysis. An in-depth analysis of both direct competitor and how other companies in the rest of the world use the Internet to leverage their business model should also be used.

Stage 3 -- ICT- mediated transactions

- Conducting business transactions online -- e-commerce enabled websites, private networks, semi-private networks, online exchanges/ e-marketplaces -- online applications for permits, online payment processing (for letters of credit and other forms of payment), electronic documents (bills of lading, customs forms), transportation bookings, scheduling, tracking, insurance applications, credit verification, etc.

Stage 4 -- ICT-mediated service delivery

- Improving basic business operations such as customer relationship management, supply chain management, collaborative product development through the use of e-business technologies e-enabling the whole enterprise -- integrating front end e-commerce functions with back end systems
- M-commerce (mobile commerce) solutions
- Use of trade transaction software (larger firms)

At the present time, most Zambian companies are still in the very early stages of acquiring e-business and e-commerce capabilities. As we proceed with our analysis, we will be attempt to identify some

of the constraints and problems that businesses and government will need to deal with to enable Zambian companies to advance more quickly along the e-business learning curve and keep pace with their competitors in other markets.

1.4 Purpose of this assessment

This assessment has two principal objectives:

1. To assess the current situation in Zambia with respect to e-commerce, including the policy and regulatory environment, the state of technology and infrastructure, the e-readiness of Zambian exporters and other companies, the availability of e-business services, and potential roles for private sector and public sector organizations (e.g. the Export Board of Zambia and the Ministry of Commerce, Trade, and Industry) in supporting e-commerce development initiatives.
2. To use the results of the assessment to help formulate strategic plans for upgrading the E-Commerce business architectures of the Export Board of Zambia and the Ministry of Commerce, Trade, and Industry as a means of helping Zambian exporters compete more effectively and capture global market share.

In order to accomplish these objectives, the following tasks were carried out:

1. Reviewing background documents and conducting interviews with government and private sector representatives to assess the current state and possible direction of E-commerce policy and regulation in Zambia.
2. Conducting company interviews to assess the current capabilities of local Internet Service Providers (ISPs), Application Service Providers (ASPs), and other information technology service providers involved in delivering Internet and e-commerce services.
3. Conducting interviews to assess the e-readiness of the Export Board of Zambia (EBZ), export companies connected to the EBZ and other e-agents (companies and institutions that play a role in the E-commerce chain).
4. Analyzing the results of the assessments to design e-business

strategies and implementation plans for initiatives to be undertaken by the EBZ, the MCTI, and a private sector advocacy group.

Part 2: Principal Findings

2.1 The current situation with respect to e-commerce policy and regulation in Zambia

Government policies and regulations play an important role in determining the growth prospects for e-commerce in Zambia. A supportive policy and regulatory environment can provide an impetus to private sector investment in the necessary telecommunications and IT infrastructure. It can also be a factor in firm-level decisions to invest in the technology, training, and capacity development efforts needed to take advantage of e-commerce applications. On the other hand, poorly formulated policies and regulations can seriously hinder the development of e-commerce by restricting the development of e-commerce infrastructure and systems and discouraging firms from investing in the hardware, software, and training that are necessary to acquire e-commerce capabilities.

In our examination of the current state and possible direction of e-commerce policy and regulation in Zambia, we will address the following three questions:

1. Is the current regulatory environment enabling enough for e-commerce?
2. Who has the mandate for steering e-commerce policy and regulation in Zambia?
3. What is the status and direction for formulating a national policy and regulatory framework for e-commerce in Zambia?

2.11 Is the current policy and regulatory environment in Zambia enabling enough for e-commerce?

For e-commerce to take root in Zambia, the policy and regulatory environment needs to provide sufficient scope and incentives for the development of the infrastructure, systems, services, and firm-level capabilities that are needed for firms to engage in e-commerce. Although the policy and regulatory environment in Zambia has improved somewhat in recent years, firms involved in the ICT sector

still face a number of significant policy and regulatory constraints.

A fundamental requirement for e-commerce is the existence of a high-speed telecommunications infrastructure that links businesses and consumers through a variety of hardware devices and software applications. Zambia, like many other developing countries, currently lacks the necessary infrastructure to take advantage of e-commerce applications and compete on equal terms in the new economy. The development of the requisite ICT infrastructure is heavily dependent upon the existence of supportive policies and regulatory systems.

The present set of policies has allowed for moderate growth of the internet in Zambia. Since the internet was first launched in 1994, the number of subscribers (internet accounts) has grown to approximately 10,000-12,000, which roughly translates into 30-40,000 internet users. In the space of 10 years, businesses have progressed from using telexes for international communications to using fax machines and now to the use of e-mail.

The progress that has been achieved with respect to the internet and the deployment of other new technologies, such as wireless telecom services, has been aided by efforts of the government to deregulate the telecom sector and encourage private sector investments. Some of the positive steps that have been taken to reform the telecommunications sector include:

- Setting up an "independent" regulatory authority
- Granting licenses to cellular service providers
- Permitting the establishment of private data networks using VSATs
- Encouraging the growth of internet services by licensing new ISPs

Unfortunately, these efforts to establish a more supportive policy and regulatory environment are not yet sufficient to enable e-commerce to take root in Zambia.

The most serious problem areas include the following:

1. Policies that affect the development of the basic telecommunications infrastructure of the country

Zamtel, the state-run telephone company, is the sole PSTN provider and, as such, is responsible for developing and managing

the country's basic telecommunications infrastructure. Although the business of providing domestic wireless phone services has been opened up to foreign and domestic investors, Zamtel has retained its position as the sole provider of local, domestic long distance, and international long distance fixed line telephone services.

It was the universal consensus of all the private sector participants in the ICT sector that we met with in conducting this assessment that the basic telecommunications infrastructure in Zambia is woefully inadequate for the requirements of the information age.

The quality of existing analog lines is poor and provides a weak medium for digital data transmission. The tone quality on existing analog lines is often very poor, which limits the quality of internet connections for customers that rely on dial-up accounts. This makes it difficult to use the internet for anything other than sending and receiving e-mail. Moreover, the limited availability of landlines restricts the market for basic dial-up internet services in many parts of the country.

Zamtel, like many state-run telephone companies in the rest of the world, has failed to keep pace with business or consumer demand for fixed line services. Many parts of the country are not served at all by the PSTN (public switched telephone network) services offered by Zamtel. The coverage of the existing system is largely limited to consumers in urban centers located along the line of rail. Access in other parts of the country is much more restricted. Even in areas served by the landline network, the number of lines is limited, and customers desiring new services generally encounter long waits or high up-front costs when installing new connections.

Preserving Zamtel's monopoly has resulted in businesses and residential customers paying high rates for poor-quality services. For example, current rates for international calls are very expensive, which places exporters and firms engaged in other forms of international commerce in a disadvantaged position as they attempt to compete in the

global marketplace against competitors that have higher quality and less costly access to global communications.¹

Current regulations restrict companies from offering alternative services, such as international call services using wireless transmission facilities and internet telephony (voice over IP). For businesses engaged in international commerce, such services would offer tremendous cost savings and make them more competitive.

By preventing competition in its core business areas, the current policies with respect to Zamtel have deprived the country of new technologies and ICT infrastructure investments that could have been provided by private companies.²

In an age when companies world wide are competing with each other in a growing global marketplace, countries can no longer afford to penalize their businesses by imposing high costs on telecommunication services or by restricting the growth of the ICT infrastructure required to compete in the information age economy. Because of the critical nature of this problem, the Government of Zambia should take immediate action to resolve the issues surrounding the privatization of Zamtel and take the steps that are necessary to open up the telecom sector to new investment and competition.

2. Policies related to the trade in ICT products

There was a general consensus among the businesses we interviewed that the current high import duties on computers

¹ At the present time, a three - minute telephone call from Zambia to the U.S. costs approximately \$8. By comparison, a similar call from Sri Lanka to the U.S. would cost less than \$2.00. From South Africa to the U.S., a three- minute call would cost approximately \$2.50. As a result of rapid development of VOIP services in Asian markets, costs of telephone calls from Hong Kong, Singapore and Korea to the U.S. have dropped to under \$.10per minute.

² Experiences in central and eastern Europe over the past decade provide an excellent example of the benefits of liberalization and privatization in developing the telecommunications sector. In this region, foreign investment, mainly by western telecommunications operators, has brought much-needed capital and technology to the telecom sector. Nearly every former state monopoly carrier has selected a "strategic" western partner while western GSM operators jostle each other to offer services in the liberalised markets for mobile telephony. (See "The Telecommunications Sector Shows the Way" (<http://www.icc-uk.com/tssw.html>) This article, by InterConnect's Managing Director Alan Horne, appeared in The New Europe in the World Economy, published by the International Chamber of Commerce, Paris, May 2000.

and other ICT equipment, combined with high VAT rates, severely restrict computer ownership in Zambia. High duty and VAT rates drive up the cost of owning computers and other information and communication appliances such as web TV devices, television sets, telephone handsets, satellite decoders, computer accessories, printers, cameras, and personal digital assistants (PDAs).

This problem was discussed at length in the last year's National Information and Communication Infrastructure (NICI) workshop. The Working Group on Infrastructure and Access recommended that import duties on PCs and other ICT equipment be "zero rated" for a period of five years. This is a very sensible recommendation that the government should take immediate action to implement.

This recommendation is consistent with WTO agreements on trade in information technology products. For example, the Ministerial Declaration on Trade in Information Technology Products (ITA), which was agreed to by 29 participants at the Singapore Ministerial Conference in December 1996, provided for participants to completely eliminate duties on IT products covered by the Agreement by 1 January 2000.³

3. High corporate tax rates and lack of investment incentives which tend to limit foreign and domestic investments in ICT infrastructure

Another common complaint from the companies interviewed as part of this assessment was that current tax policies and a lack of investment incentives tend to limit the attractiveness of investments in ICT infrastructure. Companies involved in the ICT sector face the dual challenges of having to bear the

³ See Annex II for a copy of the Ministerial Declaration, including the list of countries that joined in this agreement and the product categories covered by the declaration.

⁴ Although the initial development of the Internet in Zambia grew out of efforts by faculty and students at the University of Zambia, the current licensing requirements present a formidable barrier to entry that is likely to inhibit future success stories of this type. The front-end licensing requirements make it extremely difficult for bright young entrepreneurs to replicate this success and launch new ISP operations to serve communities or markets that are not currently being served by the current licensees. Even though some opportunities exist for young entrepreneurs to develop franchise operations with the support of a licensed ISP, the current licensing requirements still tend to limit the effective development of new ISP start-ups and the robust development of Internet services similar to that which has been achieved in less restrictive markets.

front-end costs of infrastructure investments plus next stage costs of creating awareness and educating their customers in how to take advantage of these new technologies. In many cases, the returns on ICT investments are postponed until the market reaches a critical level of customers. Unless tax policies and investment incentives are in place that encourage ICT investments, international technology suppliers are likely to postpone investment plans in countries, like Zambia, that do not offer attractive returns and concentrate on those countries and regions with more forward-looking policies.

With respect to tax policies and incentives to encourage ICT investment, Zambia offers an environment that is far less attractive than many other developing regions of the world. This is an area that deserves the attention of policy makers who understand the tremendous development benefits that could be achieved by encouraging higher levels of investment in the ICT sector. Government policy makers would do well to review the experiences of countries like Malaysia and Singapore to see how various types of fiscal and non-fiscal incentives have been used to attract and nurture the development of their IT sectors.

4. Licensing procedures that limit the number of ISPs and raise the costs of internet services

Although Zambia supposedly has adopted a policy of open competition in the provision of internet services, current licensing and regulatory procedures still act as a brake on the development of the internet and the provision of internet services in the country. Although the current cost of obtaining a license to operate as an ISP (\$40,000) is not prohibitive for larger, foreign investors, it does appear to be an impediment for local entrepreneurs who might be inclined to offer internet services in areas not served by existing providers. Moreover, the additional charge of 5 per cent of gross revenues, on top of income taxes and other business charges is a heavy burden on ISPs and raises rates for consumers⁴.

Countries that have experienced rapid growth in internet services have generally opted to not license or regulate ISPs, leaving them free to regulate themselves according to

emerging standards supported by national and international professional and industry organizations. The prime example of the hands-off approach to government regulation of the internet is the U.S., which has led the world in the growth of internet services. Other countries that have experienced rapid growth in internet services, such as South Africa, have also opted for minimal licensing and regulatory restrictions.

5. Absence of banking laws related to online payment processing and security. One of the most frequently mentioned constraints on the development of e-commerce in Zambia is the lack of online payment mechanisms. Credit card use in Zambia is very low and banks do not accept online payments. Some banks have introduced online banking with online bill payment applications, but these are still mostly in the development phase. Payment mechanisms that have been developed by international companies, such as Tradecard, Paypal and e-Bucks, are not yet available in Zambia.

Although banks operating in Zambia, particularly branches of international financial institutions, have ready access to the technology required to introduce online payment applications, they do not appear to be particularly eager to offer such services. In part, this reluctance stems from feelings that the market is not ready for such innovations, due to restricted computer use and the small number of companies that might use such services. However, the absence of banking laws governing online payment processing and dispute resolution issues appears to be an important factor constraining the development of such services.

One of the bank representatives interviewed as part of this assessment suggested that the Central Bank is currently looking into this issue. Given the importance of secure online payment mechanisms for the orderly growth of e-commerce, establishing supportive banking laws and regulations to facilitate such developments should be a priority part of the e-commerce development agenda for Zambia.

Although these conditions have not prevented the development of ICT services, they have slowed, and continue to slow the rate of development from what might be possible with a more supportive environment. The present situation is far from hopeless. There appears to be a desire on the part of government and the private sector to work out solutions to the policy and regulatory issues that

are currently constraining the growth of the internet and prospects for e-commerce. Clearly, however, for Zambia to keep pace with other countries in the quest to capture the benefits that the ICT revolution offers, the government must be prepared to develop a more supportive policy and regulatory environment. In particular, it must be willing to transform policy and regulatory reform proposals and good intentions into practical solutions that will unleash the public and private sector initiatives and help transform the economy and society of Zambia.

2.12 Who has the mandate for steering e-commerce policy and regulation in Zambia?

One of the recommendations of the NICI conference in March of 2001 was to assign responsibilities for steering e-commerce policy and regulation in Zambia to the Ministry of Commerce, Trade and Industry. In response to this mandate, the Ministry organized an e-commerce committee and is in the process of developing a work plan outlining the agenda they plan to pursue this year.

The assignment of responsibilities for e-commerce policy and regulation to the Ministry of Commerce is a logical decision, considering their overall mandate with respect to other aspects of commerce, trade, and industry. However, it is clear that in carrying out this mandate, MCTI representatives will have to work closely with other ministries and regulatory authorities to deal with overarching or cross cutting issues. For example, prospects for e-commerce are directly affected by the policies and regulations related for telecom infrastructure and services, which fall within the purview of the Ministry of Communications and Transport and the Communications Authority. Banking policies and regulations, which affect the development of online payment processing and e-banking, are the responsibility of the Central Bank and the Ministry of Finance. The Revenue Authority is responsible for implementing customs clearance procedures, including computerized and online systems, which are very important for international b2b e-commerce transactions.

At the same time, the MCTI e-commerce committee needs to work closely with the private sector involved in providing e-commerce services in order to identify priority problem areas and work out solutions to these problems. The private sector, on its part, needs to organize and coordinate its policy advocacy efforts in order to increase prospects for solving problems and removing constraints in a

practical, timely fashion.

2.13. Status and direction of efforts to formulate a national policy and regulatory framework for ICT development in Zambia

Over the past several years, there has been considerable discussion regarding the development of a national policy and regulatory framework to guide the development of the country's information and communication infrastructure (NICI).

At one time or other, various ministries have been tapped to serve as the lead organization for developing a this policy framework, including the Ministry of Transport and Communications, Ministry of Information and Broadcasting, Ministry of Vocational Training, Science and Technology and Ministry Commerce and Industry

In 1998, the Parliamentary Committee on Education, Science and Technology placed the responsibility of formulating the ICT policy under the Ministry of Communications and Transport. The NICI workshop in March 2001 recommended that the Ministry of Information and Broadcasting assume this lead role in coordinating the ICT policy process.

Although the NICI workshop provided an excellent forum for clarifying policy priorities and formulating recommendations on ways to move forward in various areas, not much has happened in the intervening months. This is partly attributable to political factors centering on the presidential elections and the installation of the new government.

With a new government in place, this is the ideal time to renew efforts to formulate a national information and communication information policy framework for the country and to begin implementing the recommendations of last year's NICI workshop. A summary of the recommendations related to policy development is contained in the following table.

	Recommendation	Lead/Responsible Institution	Timetable
1	Establish a steering committee supported by a technical working group and a government	Ministry of Information and	Immediate

	champion for leadership	Broadcasting (MIBS)	
2	Conduct baseline study where needed		Ongoing
3	Prepare draft policy for discussion with action plans, programs, projects	MIBS	December 2001
4	Policy validation workshop and sensitization of parliament, public, wider circulation of policy document	MIBS/SC	October 2001
5	Legislation	Ministry of Legal Affairs	TBA
6	Setting up technical task forces for international, national fund raising	MIBS	Immediate
	Project implementation and monitoring	SC/Technical Task Force	Ongoing
7	Establish an ICT agency/ministry for Zambia	Cabinet	Ongoing

2.2 The current situation with respect to the e-business services in Zambia

A robust services sector is an essential element for e-commerce development. Essential services include internet access (provided by ISPs), web development and hosting services, internet training services, content and information services, financial services (online payment processing), computer programming, networking, maintenance, and software services, and security services. Other types of business services are also important, such as credit verification services, freight forwarding and logistic services (including shipping, warehousing, and fulfillment), insurance, etc. Increasingly these types of service providers are offering online support, such as online booking, tracking, and payment, which increases their value to firms engaged in e-commerce.

A variety of e-business services are available to help Zambian companies access and use the internet to support their business operations, including the following.

Internet Service Providers (ISPs)

Adequate internet access is the basic requirement that must be met for e-commerce to develop. Companies need reliable, affordable, and relatively high-quality internet connections to support their efforts to use internet technologies to improve their business operations.

The Communications Authority has granted ISP licenses to nine companies. Five of these companies are already operating. Four

others are still in the planning stage. The leading ISPs at the present time are Zamnet, Coppernet, and Zamtel. These three companies account for the majority of the estimated 10,000 ISP accounts. Two new companies, UUNet and Microlink, entered the market last year and are likely to become major players in the ISP market. UUNet is targeting the corporate market with broadband services. Microlink is focusing on providing broadband wireless connections.

Several wireless companies have also been granted ISP licenses. Telecel, the largest provider of wireless telephone services, has entered into a partnership with Coppernet to offer e-mail services over their wireless phone system. The other companies apparently are still in the planning stages with respect to their ISP offerings.

Costs of service: At the present time, the monthly cost of a dial-up internet account ranges from \$20 to \$30 per month for 60 hours of connection time. In addition, most companies charge a one time start-up fee or installation fee that ranges from \$10 to \$35. With more companies offering services, there is some downward pressure on rates. Zamtel, for example, is considering raising the number of free hours from 60 to 100 hours per month. Microlink is currently offering internet access with unlimited usage for \$25 per month.

Broadband connection options included DSL, ISDN, and wireless internet services. The costs for broadband connections start at \$550 per month for a 32 kbps leased line connection and increase to \$995 per month for 64 kbps and \$3000 per month for 256 kbps services. DSL lines are available for \$420 per month from Zamtel. Installation costs for broadband connections range from \$1000-\$3000, depending on whether the equipment is purchased or leased.

Current costs for broadband access in Zambia are very high by international standards. For example, for DSL services in the U.S. with 128-256 kbps capabilities, the average monthly cost is approximately \$40 per month. Wireless broadband and cable connections with transmission speeds up to 2 mbps cost about the same amount. In South Africa, ISDN services with unlimited access are available for \$33 per month.

Coverage: Internet access is mainly confined to Lusaka and the major towns along the line of rail. Zamnet, Coppernet, and Zamtel have POPs in Lusaka and the Copperbelt. Zamtel provides a local access number to subscribers in 11 district centers. For other ISPs, using a dial-up account in areas not served by your ISP's POP

requires a long distance trunk call to the nearest POP.

Quality of services: The quality of dial-up services is often not good, due to the poor quality of the analog lines provided by the state telephone monopoly, Zamtel. Websites take a long time to load, which coupled with frequent breaks in the connection, limits the usefulness of the internet as a ready source of information.

Web development and hosting services

There are a number of companies offering web development and hosting services. Leading suppliers include Zamnet, Coppernet, and Africa Insites. In addition, there are smaller web development companies such as WebHut Zambia and Webnet that have good web development capabilities. Costs for basic websites are very reasonable (roughly \$200-300 for a five page website). Many of these web development companies are capable of developing more complex, dynamic websites that incorporate databases, online forms, streaming video and other features.

Most of the web development companies also offer domain name registration services and web hosting support. Websites are hosted on local servers or on servers located in the U.S. and Europe. Average costs for web hosting services are \$20-\$30 per month.

Training services

Training in basic computer applications, internet applications, and web development is available from a number of training providers. For example, Coppernet offers training programs in Lusaka and Kitwe in topics such as: using e-mail, website design and development, networking, systems administration, data base applications, and courses for senior managers and executives. UUNet offers executive-level training on a monthly basis through its UUNet Forum. Several local universities and technical training institutes also offer certificate training and short courses in a variety of computer and internet applications. International organizations such as the British Council and Aptech (India) also short term executive courses and longer-term certification programs on various ICT applications.

Although technical training courses are readily available, there appear to be fewer course offerings dealing with the business aspects of e-commerce, such as developing e-commerce strategies or e-

marketing,

Content providers

There are a growing number of organizations providing information content for business, agriculture, the travel and tourism industry, government, and other sectors. There are several business directories that have been developed by ZAMNET, Coppernet ([Coppernet Business](#)), and Africa Insites ([Zambiz](#)), in addition to content provided by regional or international websites such as Africa Online and MBendi.

The principal weakness in the existing business directories is the lack of links to company websites. This is an unavoidable at the present time because of the simple fact that very few companies have websites. In addition, the maintenance of these sites is somewhat problematical since they do not generate revenues but merely serve to promote the services offered by their sponsors.

Banking and financial services

Many of the companies that we interviewed as part of this assessment identified the lack of credit card use and online payment mechanisms to be among the most important constraints to the development of b2c e-commerce opportunities in Zambia. The lack of payment mechanisms, and the related problem of online security, will need to be resolved for e-commerce to take root.

Other service providers (freight forwarders, shipping, small package delivery)

Freight forwarders in Zambia are regularly using the internet to communicate with their international partners and to access information on their partners' websites. Increasingly, international freight forwarders are offering online booking and tracking services, as well as providing information about shipping rates and schedules. Express mail services such as FedEx and DHL offer worldwide package tracking services as well as contact and rate information on their websites. Local freight forwarders and shipping companies can take advantage of these services to provide online tracking and information services to their local clients.

Problems faced by e-business service providers in Zambia

Although local service suppliers have been quick to respond to market opportunities in Zambia for e-business support services, they nevertheless face a number of problems in growing their businesses.

The principal problem is the small size of the local market, which is affected by the low level of awareness among local firms regarding the benefits of internet use and e-commerce, compounded by the high costs of computer ownership. Financial constraints -- the lack of venture finance and high costs for working capital finance -- also limit the growth of some e-business service firms. Lack of trained workers and skill shortages in certain technical areas, combined with relatively high salaries for trained workers and competition to retain competent technical staff pose additional difficulties for e-business service providers.

In spite of these difficulties, the ICT service sector appear to be experiencing strong growth and is likely to continue growing as local companies become more aware of ways the internet and e-commerce can benefit their business operations.

2.3 The Level of E-Readiness in the Zambian Export Community

The great majority of companies are still in the very early stages of acquiring e-business capabilities. Awareness of the internet and e-commerce applications is still fairly low. For companies that have computers, the principal uses are for word processing and accounting.

Internet use is growing, particularly among firms engaged in international business operations. The principal use of the internet for firms that have internet access is for sending and receiving e-mail. Few companies use the internet to search for business information.

Only a small percentage of Zambian companies have websites, although in some sectors, such as tourism, the number of company websites is growing quite rapidly. Existing websites generally are in the "brochure-ware" category. Only a small number of companies are developing interactive websites that offer product information or forms for customer support or ordering. Few companies appear to be using e-marketing techniques to support their sales activities and the

use of online market resources, such as catalogs, product descriptions, product showcases, or online business exchanges is extremely rare.

The reasons for the limited use of the internet by Zambian companies are not hard to find. We have noted many of these reasons previously, including: the low level of computer use, due to high costs of ownership and lack of training; the high costs internet access -- by international standards as well as in relationship to income levels; and the poor quality and speed of dial-up connections. Internet users with dial-up accounts not only have to pay relatively high fees for their internet connections, but also per minute charges to the telephone company. The quality of dial-up connections is less than adequate and web pages take a long time to load. The combination of high cost, slow connection speeds, and frequent breaks in connections makes it difficult for companies with dial-up accounts to use the internet for anything other than sending and receiving e-mail.

Some of the larger companies in Zambia have been able to get around connectivity and speed limitations by investing in broadband connections. With broadband connections, companies can use the internet for a variety of applications in addition to e-mail. They can use the internet to search for information, gather market intelligence, communicate with buyers and suppliers using VOIP applications, engage in video conferencing, support e-marketing efforts, and conduct business transactions online. There are a small number of larger companies that have begun to invest in the necessary hardware, connectivity, systems, training, and web applications required to advance along the e-commerce learning curve (see [Section 1.3](#)). However, broadband connectivity is expensive and not affordable for most companies. Moreover, access to broadband connections is generally limited to Lusaka and urban centers in the Copper Belt.

In summary, most companies in Zambia are still in the very early stages of acquiring e-commerce capabilities. They are constrained by the poor quality and high costs of the existing ICT infrastructure -- which, in turn, can be traced to policy and regulatory problems that are inhibiting the necessary investments in new infrastructure, equipment and services. They are also suffering from constraints of an internal nature -- lack of awareness, lack of training, and insufficient investments in technology upgrading and business

restructuring efforts.

Although it is likely to take several years for the majority of Zambian companies to acquire the necessary resources and capabilities needed to engage in e-commerce, many companies are in a position to benefit from technologies and services that are within their reach now. Companies engaged in international business operations fall into this category.

In the following sections, we will suggest strategies that government and private sector organizations can pursue to raise the level of e-business readiness of Zambian companies and prepare them to participate engage in e-commerce as a means for improving their competitiveness in national, regional, and international markets.

3.0 Recommendations

There are several areas where USAID, through programs such as the Leland Initiative or ZAMTIE, could contribute to the development of e-commerce in Zambia, as well as providing support to the development of the country's ICT infrastructure and the policy framework needed to nurture its growth. Following are particular areas in which USAID programs could provide an important boost to current efforts in this area.

1. Support ongoing efforts to develop a NICI policy agenda

The March 2000 NICI Policy Workshop provided an excellent forum for defining the key issues and problems related to the development of the overall National Information and Communication Infrastructure Policy Framework. Sound ICT policies provide the foundation for developing the requisite ICT infrastructure and fostering growth in particular areas such as e-commerce.

The discussion paper prepared by S.T. Habeenzu and J.M Munsaka that drew upon the discussion and recommendations of the NICI workshop provides an excellent guide for moving forward with efforts to further refine and implement the NICI policy agenda. (*Discussion Paper: Towards a National Information and Communication Infrastructure Policy for Zambia, March 2001*)

This discussion paper proposes that a high-level working group be established under the office of the President, with a full time

Secretariat. This working group would serve as the focal point for the coordination and execution of selected ICT initiatives. Other proposed functions include:

- Developing and monitoring the implementation of NICI policies, standards and guidelines;
- Supporting public and private sector organizations in their development of e-business strategies;
- Promoting common policies on the management of information, including privacy;
- Coordinating development of cross-cutting services such as human resources;
- Managing a consultative forum of all stakeholders, including the government, the private sector, academia, NGOs, and civil society.

The formation of such a working group under the office of the President would send a clear signal of the importance of ICT to national development goals. It would also provide a means of moving forward rapidly to resolve some of the priority problems identified in the March 2000 NICI workshop.

This is an area in which ZAMTIE support might be useful. ZAMTIE could play a productive role in mobilizing private sector support for the NICI policy agenda and undertaking specific initiatives that fit with this agenda.

2. Mobilize support for the immediate implementation of some of the priority actions recommended in the March 2000 NICI Policy Workshop

The NICI Policy Workshop identified a number of priority problems that are constraining ICT and e-commerce development in Zambia and recommended a timetable for actions to resolve these problems. Some of the problems that were targeted for immediate action include the following:

Access

Recommendation	Responsible	Time scale
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	Organization	
Zero rate ICTs – PCs for 5 years	Government	Immediate
Provide incentives for local assembly of IT products including removal of taxes	Government / private sector	Next budget
Review of licensing and operating fees	Communications Authority	Immediate
Provide incentives for rural access	Government / private sector	Immediate

Infrastructure

Recommendation	Responsible Organization	Time scale
Encourage private sector investment in national infrastructure	Government	Immediate
Open up PSTN to competition	Government	Immediate
Provide incentives for rural infrastructure establishment	Government	Immediate
Encourage joint partnership in infrastructure development	Government	Immediate
Adopt appropriate and cost effective delivery system to enhance communication especially for rural areas	Government / private sector	Immediate

Regulation

Build -- appropriate – self – monitoring operators	capacity: expertise sustaining	MCT and Communications Authority	Immediate
Issue a white paper to provide regulatory framework for the operations of Communications Authority and determine level of independence from government		Government/Communications Authority	Immediate

Consultation and awareness

The meeting emphasized the need for ongoing forum and meeting spaces to raise awareness and promote interaction amongst stakeholders. The workshop made the following recommendations:

Recommendation	Lead Institution	Timetable
Establish a forum on electronic commerce development in Zambia	Ministry of Commerce and Industry	Immediate

ZAMTIE and other USAID programs such as the Leland Initiative could help achieve some quick successes by focusing on a

committee has been set up and the committee is currently developing an action plan to guide their initial efforts. ZAMTIE could help the MCTI develop its internal capacity to support e-commerce development efforts through this forum. Technical assistance from ZAMTIE or the Leland Initiative could also be used to organize private sector participation in the e-commerce development forum. In turn, the collective body of the forum could mobilize support to help resolve priority problems such as the import duties on ICT equipment and high licensing and operating fees for ISPs.

3. Mobilize the private sector to support e-commerce development through education, awareness and advocacy efforts

Private sector firms involved in the ICT sector need to invest in organized efforts to promote the growth of e-commerce and the utilization of ICT by businesses, government, non-commercial organizations, and the general public. The private sector could play an important role in the following areas:

- Increasing awareness of the benefits of ICT to Zambia's national development agenda by sponsoring educational and training activities
- Participating actively in policy advocacy efforts designed to improve the policy and regulatory environment for ICT and e-commerce development in Zambia
- Cooperating with government and development agencies to develop and deploy e-business and e-government solutions to support the country's economic and social development agenda.

Collective actions are needed to ensure that the views of the business community are heard and to mobilize active support for particular ICT development initiatives. As part of this assessment, we explored the prospects for forming a private sector ICT working group or committee, under the auspices of an established business organization such as the Zambian Chamber of Commerce and Industry (ZACCI). This idea was well received by representatives of the companies we interviewed, as well as by representatives of ZACCI. A brief outline of actions that should be undertaken to launch such an initiative is included in Section 6.

4. Strengthen the capacity of key government organizations

to support e-commerce development efforts.

The Ministry of Trade, Commerce, and Industry is the principal government ministry responsible for e-commerce development. The Export Board of Zambia, which falls under the MCTI, also has an important role in helping exporters take advantage of e-commerce technologies and services.

Some of the functions that the MCTI could undertake with respect to e-commerce development include the following:

- Collaborating with the private sector to identify policy and regulatory constraints to e-commerce development and actively working to establish a more supportive policy and regulatory environment.
- Removing constraints to private sector investments in ICT infrastructure and e-commerce services
- Promoting and reinforcing education, skills development and awareness.
- Positioning the MCTI as a model user of e-commerce in procurement and service-delivery processes.
- Collaborating with regional and international organizations to implement e-commerce development plans such as regional/international electronic payment systems, regional/international connectivity plans, access to international gateways, e-commerce dispute resolution accords, etc.

In order to provide effective support for e-commerce development initiatives, the MCTI and the EBZ need to upgrade their internal capabilities with respect to ICT utilization, planning, and service delivery. Improving the capacity of the MCTI and EBZ to provide effective support for e-commerce development will efforts in the following areas:

- **Awareness:** Educational programs are needed to help develop a common vision among senior management and staff regarding the ways that e-business and e-commerce applications can help the MCTI and the EBZ accomplish their organizational objectives.
- **Infrastructure:** The internal ICT infrastructure of the MCTI and EBZ needs to be upgraded to provide managers and staff with the tools they will require to utilize e-business

technologies to improve operations and services.

- **Training:** A core group of staff members need to be trained in Internet/e-commerce applications including advanced search techniques, web research techniques, web authoring and publishing, information management, communicating with clients, etc. Training programs should also be conducted for managers and staff in selected departments to understand how the internal operations and services can be improved by more effective use of the Internet.
- **Intranet development:** The MCTI and EBZ should develop internal web-based information systems (intranets) to provide managers and staff with ready access to the types of information and knowledge resources they need to carry out their job responsibilities more effectively.
- **Upgraded websites:** The MCTI and EBZ websites should be upgraded to provide more useful information and online services to private sector and public sector customers. These upgraded websites should incorporate the best features of highly effective sites developed by similar organizations in other countries.
- **New, e-business enabled service packages:** The MCTI and EBZ should strive to become model providers of e-government services. They should formulate new service packages that can be delivered to their customers using e-business technologies.

In Sections 4 and 5, we outline e-business strategies that the MCTI and the EBZ could pursue to improve their capacity to provide effective support for the country's e-commerce development agenda. Section 6 contains a summary of recommendations for establishing an ICT committee under the auspices of ZACCI.

4.0 E-business Strategy Recommendations for the Export

Board of Zambia

1.0 Executive Summary

1.1 Mission

The Export Board of Zambia will spearhead efforts to enable Zambian exporters to use e-business services and applications to compete more effectively in the global marketplace.

1.2 Objectives

- The EBZ will upgrade its internal capabilities for delivering information, marketing services, and sales transaction support to its members using the internet and e-commerce applications
- The EBZ will develop new service packages and business models for delivering e-commerce support and services that meet the needs of its members
- The EBZ will play a leadership role in helping Zambian companies acquire e-business/e-commerce capabilities, including learning how to use various e-commerce tools and applications to conduct international business operations more effectively.
- The EBZ will develop and support a network of business partners that are linked together electronically and able to help Zambian exporters access critical types of trade-related services, including e-commerce.
- By empowering Zambian exporters to participate in the information age economy, the EBZ will contribute to the continued growth of non-traditional exports.

1.3 Keys to Success

For EBZ to provide a leadership role in promoting e-commerce development in Zambia and using it as a tool for promoting Zambian exports, EBZ must first upgrade its own internal e-business capabilities and systems. This will require:

- **Awareness** --Developing a common vision among EBZ management and staff regarding the way that e-business and e-commerce applications can help EBZ accomplish its mission to expand exports of non traditional products.
- **Infrastructure** -- Upgrading EBZ's ICT infrastructure to provide managers and staff with the tools they will need to utilize e-business technologies to improve EBZ operations and services.
- **Training** – A core group of staff members need to be trained in

- Internet/e-commerce applications including advanced search techniques, market research, web authoring and publishing, information management, communicating with clients, etc. Training programs are needed for managers and staff in all departments to understand how EBZ operations can be improved by more effective use of the Internet.
- **Upgraded internal systems and e-business resources** – the EBZ should develop and train staff and managers to use and manage a variety of e-business resources, including
 - information content/knowledge resources
 - an organizational intranet
 - an effective, interactive website
 - **New, e-business enabled service packages that respond to the needs of Zambian exporters** – The EBZ should systematically work to develop new service packages that take advantage of e-business and e-commerce technologies. Areas that should be explored include:
 - information support
 - market research
 - establishing and qualifying business contacts (buyers and sellers)
 - e-marketing services (e-mail marketing, online product showcases, virtual trade shows)
 - referrals to service providers
 - tools for conducting online transactions
 - **An effective service delivery system and external network, based on e-linkages with**
 - other government agencies
 - business association
 - exporters
 - service providers
 - regional and international partners
 - **A workable business model for delivering e-business services on a sustainable basis.** This will involve developing and implementing plans to
 - develop fee schedules for EBZ services
 - develop financial management/accounting system that enables operating units to participate in business decisions related to their service units.
 - produce business plans for key service units within the EBZ (Business Information Center, Promotion Department)

2.0 Organizational Summary

Effective implementation of the EBZ e-business strategy will require top-level support from EBZ management as well as complete commitment from departmental managers and staff.

Initial e-business re-engineering efforts will focus on the Trade Information Division. Subsequently, these re-engineering efforts will be extended to the Product Marketing and Development Department.

In implementing this e-business strategy, EBZ will actively partner with private sector service providers. It will develop working relationships with local and international firms that can provide ICT support and trade-related business services to Zambian exporters. This network of service suppliers will provide both technology and business solutions that will enable EBZ to deliver effective services to its members.

EBZ will seek to obtain support from ZAMTIE or other sources to fund the services of U.S. and local consultants to help EBZ implement its new e-business strategy.

3.0 Products and services description

By upgrading its e-business capabilities, the EBZ will be in a position to offer a range of new or expanded services to its members and clients. These will include:

1. Information support -- help in conducting information searches and locating online information resources. (These services will augment the services currently being offered by the TID library using printed documents and publications.)
2. Market research -- TID staff will be able to help clients use the Internet to conduct market research and gather market intelligence.
3. Establishing and qualifying business contacts -- EBZ staff will be able to help exporters and overseas buyers identify potential business partners, gather background information and references, and establish initial contacts.
4. e-Marketing services -- EBZ staff, in partnership with a network of business partners, will be in a position to assist clients in developing digital marketing materials such as website content, online catalogs, and digital versions of product sheets and price lists. EBZ and its business partners will also be able to help firms obtain assistance to develop e-marketing strategies, including participating in online product

- showcases, virtual trade shows, and e-mail marketing campaigns.
5. Referrals to service providers -- The EBZ website will include links to a variety of business service providers who will be able to support exporters and foreign buyers in conducting trade transactions. This network of service providers will include firms providing web development/e-marketing services, freight forwarding and transportation services, insurance, finance, online payment processing, inspection services, etc.
 6. Tools for conducting online transactions -- EBZ, in conjunction with its network of business partners, will provide exporters and foreign buyers with tools for conducting online business transactions through e-marketplaces, online auctions, and e-commerce enabled websites.

4.0 Market Analysis Summary

EBZ serves two main client groups: 1)Zambian producers and exporters of non-traditional products and 2) foreign buyers who are interested in establishing business relationships with Zambian companies in order to source Zambian products.

Zambian companies are still in the very early stages of learning to use the internet to facilitate their business operations. At the present time, the internet is used mainly to send and receive e-mail. A small number of companies have invested in basic, static websites. Interactive websites are rare. Few companies are using the internet to market their products or production capabilities. A few companies are using the internet to purchase products from overseas suppliers, but otherwise there are few attempts to engage in e-commerce. The basic level of awareness of what the internet is or how it can be used to support business transactions is quite low among Zambian exporters. Quality of internet connections is generally quite poor and costs of internet access are still high by international standards.

Foreign buyers and suppliers, on the other hand, are rapidly turning to the internet to help identify new suppliers and customers and conduct business transactions. Many firms are investing in online systems for supply chain management and customer relationship management and seeking to integrate their overseas suppliers into these systems. In addition, a growing number of international traders are using online trade leads services or participating in various types of e-marketplaces or digital exchanges. By learning to use e-commerce applications, Zambia exporters can tap into this expanding global network of buyers and suppliers as a means of expanding their market reach.

5.0 Strategy and Implementation Summary

The initial phase of the EBZ e-business strategy will focus on upgrading the internal capabilities of the EBZ to provide an expanded array of trade information services to the Zambian export community.

The second phase of this strategy will focus on using the resources and capabilities developed in phase I to develop and deliver new packages of services to Zambian exporters.

5.1 Phase I

Phase I implementation efforts will focus on the following areas:

Education and training: Implementing the EBZ e-business plan will require a commitment to systematic, regular training at all levels of the organization. The education and training agenda will include:

Executive-level training. A series of workshops and seminars should be carried out to educate senior management of the EBZ in ways in which e-business and e-commerce applications will improve EBZ operations and services to members. Directors and senior managers from other government units should be invited to attend these executive training seminars to enable them to understand better how they could formulate and implement e-business/e-government initiatives to improve the operations of the government operations for which they are responsible.

Training for managers and staff in the Trade Information Department (TID). Staff from the Trade Information Department and Product Marketing and Development Department should participate in regular training programs in various aspects of web development, information management, and service delivery strategies.

Developing an EBZ intranet: The TID will undertake the initial development of an EBZ intranet. This intranet will provide EBZ staff and managers with a convenient means of accessing, sharing and managing critical types of information and knowledge resources. It will have at its core a system of gathering and synthesizing market information and intelligence that will help Zambian exporters identify and exploit new market opportunities.

A detailed plan for the structure and content of the EBZ intranet will be

developed as part of the initial training programs for EBZ staff, members, and partners.

Upgrading the EBZ Website: A core element of EBZ's new e-business strategy will be the development of a more interactive website, with an expanded array of features, including a comprehensive set of trade information resources, communication applications, and trade facilitation tools. The EBZ website will become a highly visible international trade portal that will help connect Zambian exporters and foreign buyers and provide online support to help companies initiate and manage new trading relationships.

The current website provides a good starting point for the enhanced design. This website will be upgraded to make it more interactive and to add additional content and features. ZAMTIE consultants will assist the EBZ in conducting an analysis of the features of highly effective export promotion websites and help EBZ develop a website development and management plan. Local web development/web applications firms will be contracted to help EBZ implement the website development plan.

Upgrading EBZ's technical infrastructure: Upgrading the EBZ's e-business capabilities will require an initial investment in upgraded infrastructure, including computer equipment and peripherals, broadband connectivity, network infrastructure, and software. Initial technology upgrading efforts should focus on the Trade Information Department, since this department will be responsible for developing the first set of new e-business services. As soon as possible, the upgraded network and facilities should be extended to the Product Marketing and Development Department. At later stages, the upgraded technical infrastructure and network facilities should be extended to other departments. The technology upgrading efforts should be completed prior to beginning phase II activities.

5.2 Phase II

Developing new, e-business enabled service packages that respond to the needs of Zambian exporters: The enhanced capabilities of EBZ staff and managers to manage information resources will be utilized in phase II to develop and deliver a range of new e-enabled services to Zambian exporters. Refer to Section 3.0 above for a description of the types of new or enhanced services EBZ will be prepared to offer.

Developing an effective network for delivering services to exporters: In order to deliver its new e-business enabled services, EBZ will need to develop business partnerships and e-linkages with

- Other government agencies
- Business associations
- Exporters
- Service providers
- Regional and international partners

Training for business associations and EBZ members: EBZ will spearhead efforts to train exporters in the use of e-commerce tools and applications. EBZ will partner with local and international service providers to deliver a series of e-commerce training courses that will help exporters take advantage of the services offered by EBZ and its network of business partners. These training programs will be offered through a network of district business associations and producer associations. Additional training programs will be conducted for association staff and managers on ways of using the internet to improve the capabilities of the association for providing value-added services to members.

International consultants will develop initial training modules. Local service providers will be invited to participate in developing training materials and conducting training sessions. After the initial training programs are completed, local training providers will be invited to develop proposals for providing ongoing training support to EBZ staff, association staff, and exporters. The financial arrangements for funding training services will be described in the EBZ business plan.

Refining the EBZ business plan: EBZ management should enlist the support of outside consultants to refine the EBZ business model that will underlie its new service offerings. This business plan will outline options for offering for-fee services and generating revenues through partnerships or affiliate relationships with private sector service providers. For example, EBZ could offer different types of memberships to its clients, including a basic level of services (for bronze-level members); a silver-level membership option for companies that require an additional level of service (help in conducting information searches, market research assistance, or website development assistance)

The plan will describe any changes that might be required in EBZ's financial management systems to account for new sources of revenues. In addition, the EBZ business model and financial plan will

examine possibilities of providing bonuses or incentive payments to reward members of business units that demonstrate success in generating revenues through the provision of high-quality services to EBZ members and clients.

6.0 Management Summary

The EBZ should form an e-Business Working Group or Committee to oversee the implementation of its e-business strategy. Key technical staff and managers from the Trade Information and the Product Marketing and Development departments should be represented on this committee.

The head of the committee should be appointed by and report directly to the Executive Director of the EBZ.

7.0 Financial Plan

The following table provides a summary of the first year budget requirements for implementing this e-business plan.

Consulting Services/Technical Support (Phase I)				
designing intranet and initial content	10	\$500	days	\$5,000
upgrading website				
survey of characteristics of effective websites	5	\$500	days	\$2,500
preparing training materials	5	\$500	days	\$2,500
conducting training programs	12	\$500	days	\$6,000
International travel	1	\$3,500	per trip	\$3,500
per diem	14	\$151	days	\$2,114
Misc.				\$1,000
Total Direct Costs				\$22,614
Upgrading the EBZ ICT Infrastructure				
	number	cost	unit	total
computer equipment	2	\$1,000	each	\$2,000
scanner	1	\$200	each	\$200
printer	1	\$300	each	\$300
server and networking equipment	1	\$5,000	each	\$5,000
software	5	\$200		\$1,000
Total hardware and software				\$8,500
Broadband internet access	12	\$1,100	per month	\$13,200
Total Direct Costs				\$21,700

Consulting Services/Technical Support (Phase II)				
conducting training programs	12	\$500	days	\$6,000
conducting planning sessions to design new services and marketing materials	3	\$500	days	\$1,500
developing business plan for new services	5	\$500	days	\$2,500
International travel	1	\$3,500	per trip	\$3,500
per diem	21	\$151	days	\$3,171
Misc.				\$1,000
Total Direct Costs				\$17,671

8.0 Implementation Schedule

The proposed schedule for implementing this e-business plan is as follows:

Phase I	tasks	start	end
Education and training	<ul style="list-style-type: none"> prepare training materials 	6/1/02	3/29/02
	<ul style="list-style-type: none"> conduct initial training programs for senior staff, directors, and key technical staff 	7/1/02	4/12/02
Intranet planning and development	<ul style="list-style-type: none"> analyze information needs develop intranet structure develop initial intranet content 	6/1/02	3/29/02
Website development plan	<ul style="list-style-type: none"> conduct assessment to identify features of highly effective websites for export boards and promotion agencies prepare website development and maintenance plan 	6/1/02	3/29/02
Upgrade ICT infrastructure	<ul style="list-style-type: none"> conduct detailed requirements analysis solicit bids obtain funding purchase and install hardware and software 	6/1/02	4/30/02
Phase II			
Training	<ul style="list-style-type: none"> conduct training sessions for managers and staff of Trade Information Department and Product Marketing and Development Department Conduct training sessions for 	9/01/02	5/24/02

	association partners		
Formulate new service packages	<ul style="list-style-type: none"> • Conduct planning sessions to formulate new service packages • Develop marketing materials 	9/01/02	5/24/02
Develop business plan for delivering new services	<ul style="list-style-type: none"> • Conduct business planning sessions to formulate business plan to guide the implementation of EBZ's new e-business services. 	9/01/02	5/24/02

5.0 E-business Strategy Recommendations for the Ministry of Trade, Commerce, and Industry (MCTI)

1.0 Executive Summary

1.1 Mission

The Ministry of Trade, Commerce, and Industry will serve as the lead government ministry to promote e-commerce development in Zambia

1.2 Objectives

- The MCTI will upgrade its internal capabilities for delivering information and services using e-business technologies
- The MCTI will develop new service packages and business models for delivering e-commerce support and e-government services
- The MCTI will serve as a model ministry in providing e-government services to support the development of trade, commerce, and industry

1.3 Keys to Success

For MCTI to provide a leadership role in promoting e-commerce development in Zambia it must first upgrade its own internal e-business capabilities and systems. This will require efforts in the following areas:

- **Awareness:** Educational events will be conducted on a regular basis to help develop a common vision among senior management and staff regarding the way that e-business and e-commerce applications can help the MCTI accomplish its organizational objectives.
- **Infrastructure:** The internal ICT infrastructure of the Ministry will be upgraded to provide managers and staff with the tools they will need to utilize e-business technologies to improve operations and services.
- **Training:** A core group of staff members will be trained in Internet/e-commerce applications including advanced search techniques, web research techniques, web authoring and publishing, information management, communicating with clients, etc. Training programs will also be conducted for managers and staff in selected departments to understand how the Ministry's internal operations and services can be improved by more effective use of the Internet.
- **Intranet development:** The MCTI will develop an internal web-based

information system (the MCTI intranet) to provide managers and staff with ready access to the types of information and knowledge resources they need to carry out their job responsibilities more effectively.

- **An interactive website:** MCTI will develop and interactive website to provide useful information and online services to private sector and public sector visitors. This website will incorporate the best features of highly effective sites developed by ministries of commerce and industry in other countries.
- **New, e-business enabled service packages:** The MCTI will strive to become a model provider of e-government services. It will formulate new service packages that can be delivered to their customers using e-business technologies.

2.0 Organizational Summary

Effective implementation of the MCTI e-business strategy will require support from senior management as well as complete commitment from departmental managers and staff.

The e-commerce committee will take the lead in planning and managing the training and technical assistance activities needed to implement this plan. The MCTI e-commerce committee will actively partner with private sector service providers to plan and implement specific initiatives. The committee will develop working relationships with local and international firms that can provide ICT support and trade-related business services to Zambian exporters. This network of service suppliers will provide both technology and business solutions that will enable the MCTI to deliver effective e-government services.

ZAMTIE will help MCTI secure the services of U.S. and local consultants to help the Ministry implement its new e-business strategy.

3.0 Products and services description

By upgrading its e-business capabilities, the MCTI will be in a position to offer a range of new or expanded services. These will include:

- Improved information services to Zambian companies, delivered via the Ministry's website, e-mail newsletters, and other channels.
- Online access to current government regulations affecting Zambian companies and information on procedures for obtaining licenses and permits
- Online access to forms and instructions for licenses and permits
- An online help desk that companies can use to seek specific types of

information about MCTI policies, regulations, or assistance.

4.0 Market Analysis Summary

The principal market for MCTI services is the Zambian private sector. MCTI serves Zambian companies engaged in commerce, trade, and industry -- in other words, a good share of the country's private sector plus some state-owned enterprises. To operate effectively, such enterprises need access to various types of information and services, including information on current policies and regulations, market data, quality standards, and information and forms for required licenses and permits. The internet and e-business applications such as e-mail newsletters, websites, an online help desks can make it easier for companies to obtain information and government services in an efficient, timely and transparent manner. As such services become available, companies will have one more reason for acquiring e-business capabilities.

5.0 Strategy and Implementation Summary

The initial phase of the MCTI e-business strategy will focus on upgrading the internal capabilities of the Ministry to enable key managers and staff to use the internet to obtain and manage information resources needed for effective policy development.

The second phase of this strategy will focus on using the resources and capabilities developed in phase I to deliver information and services to Zambian companies.

5.1 Phase I

Phase I implementation efforts will focus on the following areas:

Education and training: Implementing the MCTI e-business plan will require a commitment to systematic, regular training at all levels of the organization. The education and training agenda will include:

Executive-level training. A series of workshops and seminars will be carried out to educate senior management of the MCTI in ways in which e-business and e-commerce applications can improve MCTI operations and services. Directors and senior managers from other government units should be invited to attend these executive training seminars to enable them to understand better how they could formulate and implement e-business/e-government initiatives to improve the operations of

the government operations for which they are responsible.

Training for managers and staff. Staff from various departments and operating units of the Ministry will be selected to participate in an initial training program to acquaint them with web development, information management, and service delivery applications.

International consultants will develop initial training modules. Local service providers will be invited to participate in developing training materials and conducting training sessions. After the initial training programs are completed, local training providers will be invited to develop proposals for providing ongoing training support.

Developing an MCTI intranet: The e-commerce committee will participate in the initial development of an MCTI intranet. This intranet will provide MCTI staff and managers with a convenient means of accessing, sharing and managing critical types of information and knowledge resources. It will have at its core a system of gathering and synthesizing the types of information that the various departments of the Ministry need to support their activities in research, policy formulation, regulation, and services to companies.

A detailed plan for the structure and content of the MCTI intranet will be developed as part of the initial training programs for MCTI staff, members, and partners.

Developing an MCTI Website: A core element of MCTI's new e-business strategy will be the development of a highly effective website, with an extensive array of features, including a information resources, communication applications, and online services.

ZAMTIE consultants will assist the MCTI in conducting an analysis of the features of highly effective websites for government organizations with responsibilities similar to those of the Ministry. Based on this analysis, the consultants and Ministry technical staff will develop a website development and management plan. Local web development/web applications firms will be contracted to help the MCTI implement the website development plan.

Technical infrastructure: Upgrading the Ministry's e-business capabilities will require an investment in upgraded infrastructure, including computer equipment and peripherals, broadband connectivity, network infrastructure, and software. A serious effort

should be made to provide desktop access to the internet (and the proposed intranet) for managers and key staff from all of the operating units of the Ministry.

To determine the types of hardware, software, and systems that will be needed, the Ministry should carry out a detailed requirements analysis and procurement plan. The technology upgrading efforts should be completed prior to beginning phase II activities.

5.2 Phase II

Phase II activities will be focus on the following tasks:

- Refining the Ministry's e-business strategy
- Identifying opportunities for developing new e-government services
- Developing new services that businesses can access via the MCTI website
- Extending training and facilities to additional departments and operating units.

Technical assistance to implement these activities will be provided by an international consultant and a team of local service providers. The specific tasks that will be carried out during Phase II will include:

- Refining the Ministry's e-business strategy. The consultant team will collaborate with the e-commerce committee to conduct a workshop that will examine in detail the objectives that the Ministry would like to accomplish as part of its e-business strategy.
- Identifying opportunities for developing new e-government services
- Based on the results of this workshop, the consultant team will develop a business plan that will describe the actions needed to implement the e-business strategy.

6.0 Management Summary

The e-Commerce Committee will serve as the principal management unit responsible for developing and implementing the Ministry's e-business strategy. The directors of MCTI's various departments will cooperate with the e-Commerce Committee to plan and implement staff training programs, technology-upgrading activities, and new e-service plans.

7.0 Financial Plan

The following table provides a summary of the first year budget requirements for implementing this e-business plan.

Consulting Services/Technical Support (Phase I)				
designing intranet and initial content	10	\$500	days	\$5,000
upgrading website				
survey of characteristics of effective websites	5	\$500	days	\$2,500
preparing training materials	5	\$500	days	\$2,500
conducting training programs	12	\$500	days	\$6,000
International travel	1	\$3,500	per trip	\$3,500
per diem	14	\$151	days	\$2,114
Misc.				\$1,000
Total Direct Costs				\$22,614
Upgrading the MCTI ICT Infrastructure				
	number	cost	unit	total
Broadband internet access	12	\$1,100	per month	\$13,200
Other hardware and software costs				TBD
Total Direct Costs				\$13,200+ other costs TBD
Consulting Services/Technical Support (Phase II)				
Conducting training programs	12	\$500	days	\$6,000
Conducting planning sessions to design new services and marketing materials	3	\$500	days	\$1,500
developing business plan for new services	5	\$500	days	\$2,500
International travel	1	\$3,500	per trip	\$3,500
per diem	21	\$151	days	\$3,171
Misc.				\$1,000
Total Direct Costs				\$17,671

Notes:

1. If the EBZ and MCTI activities are implemented together, the travel and per diem costs for phases I and II could be reduced by 50%. In addition,

the costs for preparing training materials and conducting training sessions could be reduced somewhat.

2.A detailed requirements analysis should be conducted to determine the costs for upgrading the ICT infrastructure for the Ministry.

8.0 Implementation Schedule

The proposed schedule for implementing this e-business plan is as follows:

Phase I	tasks	start	end
Education and training	<ul style="list-style-type: none"> prepare training materials 	3/1/02	3/29/02
	<ul style="list-style-type: none"> conduct initial training programs for senior staff, directors, and key technical staff 	4/1/02	4/12/02
Intranet planning and development	<ul style="list-style-type: none"> analyze information needs develop intranet structure develop initial intranet content 	3/1/02	3/29/02
Website development plan	<ul style="list-style-type: none"> conduct assessment to identify features of highly effective websites prepare website development and maintenance plan 	3/1/02	3/29/02
Upgrade ICT infrastructure	<ul style="list-style-type: none"> conduct detailed requirements analysis solicit bids obtain funding purchase and install hardware and software 	3/1/02	4/30/02
Phase II			
Training	<ul style="list-style-type: none"> conduct training sessions for managers and staff of various MCTI departments 	5/01/02	5/24/02
Formulate new service packages	<ul style="list-style-type: none"> Conduct planning sessions to formulate new service packages Develop descriptions of new services and publish on website 	5/01/02	5/24/02
Develop business plan for delivering new services	<ul style="list-style-type: none"> Conduct business planning sessions to formulate business plan to guide the implementation of MCTI's new e-business services. 	5/01/02	5/24/02

Note: If EBZ and MCTI programs are implemented at the same time, the start and end dates for each set of activities will need to be adjusted to allow for the completion of the expanded set of activities.

6.0 Engaging the Private Sector in ICT Development and Policy Advocacy

Objectives:

Develop a business forum for ISP, e-commerce service providers and other ICT companies to

- Maintain a dialog with government to improve the policy and regulatory environment for e-commerce development in Zambia
- Promote awareness of importance of ICT applications for e-commerce and e-government in Zambia
- Promote the growth of ICT services in Zambia

Tasks

Help organize a business forum as an independent organization or as a committee or working group under an existing business organization (i.e. ZACCI)

- Plan and conduct initial organizational meeting (agree on objectives, agenda, priorities, organizational structure and develop first year work plan).
- Identify priority policy issues and contract for studies that would provide a justification for eliminating or modifying ineffective or outdated policies or regulations (Possible topics: eliminating import duties on IT products, self-regulation of ISPs, deregulation of Internet services such as VOIP),
- Develop agenda for ICT workshops to increase awareness of ICT applications by businesses and government.

Annex 1: Zambia Information Resources

[Country Data](#)
[Government](#)
[Organizations](#)

[Tourism sites](#)
[Business Associations](#)

Country Data

[Zambia, a complete guide](http://www.africa-insites.com/zambia/) (http://www.africa-insites.com/zambia/)

U.S. Central Intelligence Agency. World Factbook - Zambia

Information on geography, people, government, economy, transportation, communication, defense, etc.
<http://www.odci.gov/cia/publications/factbook/geos/za.html>

[Country Information Center - Zambia](http://www.ifc.org/abn/cic/zambia/english/zambia.htm)
(http://www.ifc.org/abn/cic/zambia/english/zambia.htm)

[Zambia](http://www.sas.upenn.edu/African_Studies/Country_Specific/Zambia.html) [Page](#)
(http://www.sas.upenn.edu/African_Studies/Country_Specific/Zambia.html)

[Zambia - Background](http://www.bellanet.org/partners/aisi/nici/zambia/Zambab.htm)
(http://www.bellanet.org/partners/aisi/nici/zambia/Zambab.htm)

[Zambia](http://internet.ggu.edu/university_library/countries/Zambia.html)
(http://internet.ggu.edu/university_library/countries/Zambia.html)

[Woyaa! : COUNTRIES/ZAMBIA](http://www.woyaa.com/links/COUNTRIES/ZAMBIA/)
(http://www.woyaa.com/links/COUNTRIES/ZAMBIA/)

[ZAMBIA Foreign Trade](http://www.sadcreview.com/country) (http://www.sadcreview.com/country)

profiles 2001/zambia/zamForeignTrade.htm)

[Zambia](#) [Online](#)

<http://www.zambia.co.zm/>

A rather cluttered portal with chat boards, e-cards, and all sorts of other goodies.

[ZamNet](#)

<http://www.zamnet.zm/>

An easy-to-navigate portal with links to all Zambia's major sites.

[InfoZambia](#)

<http://www.zambiz.co.zm/frameset.htm>

A simple site that's quick to load and provides news headlines, discussion forums and a web directory.

[Zambia](#) [Today](#)

<http://www.memeza.com/zambia/>

A good-looking portal with some handy links.

Tourism

[Travelocity.com: Destination Guides: Zambia](#)

(<http://dest.travelocity.com/DestGuides/0,1840,TRAVELOCITY|765|5|2,00.html>)

[Zambia National Tourist Board](#)

The **Zambia National Tourist Board** is an autonomous statutory body that implements all Government Policies on Tourism.

[ZAMNET - Tourism](#) (<http://www.zntb.org.zm/>)

[Zambia, a complete guide](#) (<http://www.africa-insites.com/zambia/>)

[Zambia National Tourist Board](#)

(<http://www.zambiatourism.com/zntb/>)

Site developed by African Insites for the **ZAMBIA NATIONAL TOURIST BOARD**. The **Zambia National Tourist Board** is an autonomous statutory body that implements all Government Policies on Tourism.

www.zambiatourism.com/zntb/

Organizations

Government

[Export Board of Zambia](http://www.ebz.co.zm/index.shtm) (http://www.ebz.co.zm/index.shtm) -- the new official website for the EBZ

[Export Board of Zambia](http://www.zamnet.zm/zamnet/zambus/ebz/ebz.htm) (http://www.zamnet.zm/zamnet/zambus/ebz/ebz.htm) -- the unofficial version of the EBZ website, developed and maintained by Zamnet

[Ministry of Commerce](http://www.commerce.gov.zm/) (http://www.commerce.gov.zm/)

[Ministry of Communications and Transport](http://www.communication.gov.zm/) (http://www.communication.gov.zm/)

[Republic of Zambia State Information Center](http://www.state.gov.zm/) (http://www.state.gov.zm/)

[Zambia Communications Authority](http://www.caz.gov.zm/main.html) (http://www.caz.gov.zm/main.html)

The Communications Authority is the regulator - or "watchdog"-for the Zambian telecommunications industry. The Communications Authority was set up under the Telecommunications Act1994. The main way the Communications Authority regulates is through monitoring and enforcing the conditions in all telecommunications licenses in Zambia. The Communications Authority also initiates modifications to these license conditions.

[Zambia Investment Centre](http://www.zic.org.zm/) (http://www.zic.org.zm/)

The Zambia Investment Centre has been established with the specific mandate to promote and facilitate investment in the country. The Centre is an autonomous institution that promotes investment from both local and foreign investors. It also issues the formal investment certificate that serves as the official recognition of one's investor status in the country.

[Zambia Privatization Agency](http://www.zpa.org.zm/) (http://www.zpa.org.zm/)

Associations

[Business Associations in Zambia](http://www.zambiz.co.zm/directory/associations.htm)
(<http://www.zambiz.co.zm/directory/associations.htm>)

[Associations](http://www.zic.org.zm/commercial.htm) –ZACCI (<http://www.zic.org.zm/commercial.htm>)

[The Zambia Independent Media Association \(ZIMA\)](http://www.zima.co.zm/about-zima.htm)
(<http://www.zima.co.zm/about-zima.htm>) a non-governmental organization dedicated to promoting media freedom and diversity in Zambia. It is the Zambian chapter of the Media Institute of Southern Africa (MISA) [www.misanet.org], based in Windhoek, Namibia.

Business Directories

[Coppernet Business](http://www.zima.co.zm/about-zima.htm) (<http://www.zima.co.zm/about-zima.htm>) -- a directory of business links, business news, currency information

[Zambia: Business Links](http://www.siftthru.com/zambusi.htm) (<http://www.siftthru.com/zambusi.htm>)

[Zambiz, Zambia's online business directory and trade portal](http://www.zambiz.co.zm/)
(<http://www.zambiz.co.zm/>) Zambia's leading business portal. Includes directory listings, trade leads

- [Zambian Export Companies](http://www.zambiz.co.zm/assoc/exportboard.htm#ZAMBIAN%20EXPORT%20COMPANIES)
(<http://www.zambiz.co.zm/assoc/exportboard.htm#ZAMBIAN%20EXPORT%20COMPANIES>) Directory of exporters. Compiled by Zambiz as part of EBZ website

[M-Web Africa: Business](http://www.mwebafrica.com/hub/business/guides/zambia/)
(<http://www.mwebafrica.com/hub/business/guides/zambia/>)

[Zambia - Business Directory](http://www.worldinformation.com/World/Africa/Zambia/directory.asp?country=260)
<http://www.worldinformation.com/World/Africa/Zambia/directory.asp?country=260>

Examples of Exporter Websites

[kubucrafts.com](http://www.kubucrafts.com/) (<http://www.kubucrafts.com/>) -- an exporter of Zambian handicrafts

The Internet in Zambia

Background Information

[AISI-Connect National ICT Profile](http://www2.sn.apc.org/africa/countdet.CFM?countries__ISO_Code=ZM)
(http://www2.sn.apc.org/africa/countdet.CFM?countries__ISO_Code=ZM)

[ZAMBIA \(ZM\)How Zambia Got the Internet --](http://www.aas.org/international/africa-guide/zam1.htm)
(http://www.aas.org/international/africa-guide/zam1.htm)

[The USAID Leland Initiative and Zambia](http://www.usaid.gov/regions/afr/leland/zamindex.htm)
(http://www.usaid.gov/regions/afr/leland/zamindex.htm)

[New Internet Services Reach Zambia](http://www.lowdown.co.zm/Dec2001/internetservices.htm)
(http://www.lowdown.co.zm/Dec2001/internetservices.htm)

[Overview of the Internet in Zambia](http://www.itu.int/africainternet2000/countryreports/zmb_e.htm)
(http://www.itu.int/africainternet2000/countryreports/zmb_e.htm)

Paper prepared by Lotty Kakubo, Assistant Controller, Communications Authority of Zambia. Presented to the INTERNET & TELECOM SUMMIT, Banjul, The Gambia, on 5-9 June 2000

[The role of Government in the Development of Information Communications Technologies \(ICT\) Infrastructure in Zambia .](http://www.infodev.org/icsf/mwala/Richard_Mwanza_-ICT_paper.doc)
(http://www.infodev.org/icsf/mwala/Richard_Mwanza_-ICT_paper.doc)

NATIONAL SYMPOSIUM ON INFORMATION COMMUNICATION TECHNOLOGIES (ICTs) AND INFORMATION GATEWAYS

[UUNET Zambia opens its doors](http://www.infodev.org/icsf/mwala/Richard_Mwanza_-ICT_paper.doc)
(http://www.infodev.org/icsf/mwala/Richard_Mwanza_-ICT_paper.doc)

[World Trade Net - Zambia Action Plan](http://www.intracen.org/worldtradenet/docs/networking/zam_act_p.htm)
(http://www.intracen.org/worldtradenet/docs/networking/zam_act_p.htm) Action Plan suggested by the Zambia network Lusaka 24-25 November 1998. Presented to International Trade Center, Geneva.

ICT Infrastructure

[Zambia - Internet Connectivity](http://www.bellanet.org/partners/aisi/nici/zambia/zambinter.htm)
(http://www.bellanet.org/partners/aisi/nici/zambia/zambinter.htm)
Information on ICT infrastructure and Internet connectivity provided by Bellanet. Includes information on the following topics:

| [NICI Infrastructure](#) | [Internet Connectivity](#) | [NICI Indicators](#) |
[Content Development](#) | [Web Resources](#) | [NICI Projects](#) |

Policies and Regulations

[The framework for the development of national information infrastructure in Zambia](#)

(<http://www.bellanet.org/partners/aisi/nici/zambia/zambpap2.htm>)

Paper to the National Conference on Science and Technology in Zambia 26th - 30th August 1997 By Halwidi Cris Munyati munyatic@coppernet.zm, Zambia Consolidated Copper Mines Limited, Computers and Communications Network Centre

Zambia. Communications Authority (<http://www.caz.gov.zm/>)

Official site. The Communications Authority "is the regulator - or "watchdog"-for the Zambian telecommunications industry." Has application procedures, radio frequency license fees, [using mobile phones and other equipment](#), text of the [Telecommunications Act](#), etc.

[PDF] [Zambia Fact Sheets](#)
(<http://www.idrc.ca/acacia/04634/zambia.pdf>)

Services

ISPs

[ZAMNET](#) – (<http://www.zamnet.zm>) ZAMNET Communication Systems Ltd was Zambia's first fully featured Internet Service provider. [Zamnet](#) is run by the **University of Zambia (UNZA)**. It was established as a private company by the University which is the major shareholder. Zamnet runs its services from the University premises and operates now on 256 Kbps. Zamnet's services include: Dial-up Accounts, Dedicated Leased Lines, Wireless Connections. Customer Support, Internet café, Domain Name registration, Fax Services, Web Design and Hosting, Consultancy and Training

Zamtel (<http://www.zamtel.zm>)-- Zamtel Internet was established in 1997 as the internet service provider arm of the Zambia Telecommunications Company Limited. Initially with only 15 dial in customers and a 28.8 Kbps link into South Africa, Zamtel Internet has grown to become one of the major internet access providers in the country with an almost unlimited bandwidth link into our backbone providers in Canada. This link operates via our Mwembeshi earth

station.

CopperNet (<http://www.coppernet.zm>) is another Internet Service Provider in Zambia for both domestic and business clients.

Africa Online -- **UUNet** (<http://www.africaonline.co.zm/>)

Elink (<http://www.elink.com.zm/>) -- a joint venture between Coppernet and the International Institute for Communication and Development of the Netherlands. Elink provides a network of telecenters with internet facilities and sound management. **The eLink telecentres will be independent businesses, part of a franchise system, but run by local business people. The telecentre by eLINK in Zambia is designed as a holding company with commercially operated franchised telecentres. Capital cost per telecentre stands at about USD 25,000 with today's technology. The holding company gets revenue from equipment leased to its franchisees and from franchise fees. This revenue will be used to co-finance additional telecentres in the country.**

Web Developers

Webmetropolis (<http://webmetropolis.hypermart.net/>) -- Webmetropolis.com is an Internet Presence Provider primarily focused on web design, web development, web hosting, web promotion and web maintenance.

Webhut (<http://www.webhutzambia.com/>) is a provider of internet solutions to the Zambian market. Operating from an internet cafe close to the intersection of Great East Road and Addis Ababa Drive, graphic designers and computer "jocks" create Zambia's online presence. Services include web design, catalog design, publishing and content management.

ZamBiz ([http://www.zambiz.co.zm/homeindex/page design.htm](http://www.zambiz.co.zm/homeindex/page_design.htm))-- helps companies develop a web presence for as little as \$150. Provides listings in ZamBiz website. Also provides hosting services, content management, site promotion, and merchant accounts.

ZAMNET - <http://www.zamnet.zm/>

Internet Service Provider, consultancy in networking and Internet connectivity.

CopperNET **Services** - <http://www.coppernet.zm/>

Commercial Internet Services Provider.

[ZAMTEL](http://www.zamtel.zm) - <http://www.zamtel.zm>

Telecommunications and Internet Service Provider.

[Memeza](http://www.memeza.com/) - <http://www.memeza.com/>

Memeza provides advanced interactive media development and internet consulting to clients in Zambia.

[Africa Insites](http://www.africa-insites.com) (<http://www.africa-insites.com>)

Johannesburg-based Portal network, website solutions and hosting. Has developed a number of Zambian websites, including the site for the Zambian National Tourism Board and Zambiatourism.com.

Internet Cafes

[BusiNet Internet Cafe, Lusaka, Zambia](http://www.businet.co.zm/)

(<http://www.businet.co.zm/>)

[Cyberian Outpost](http://www.africa-insites.com/zambia/cyberianoutpost) (<http://www.africa-insites.com/zambia/cyberianoutpost>)

Livingstone

International E-Commerce Policy

[International e-commerce policy](http://www.ecommerce.gov/internat.htm)

(<http://www.ecommerce.gov/internat.htm>) -- a collection of selected links to international information sources on electronic commerce and Internet policies

[e-Commerce Policy Initiatives](http://www.apc.org/books/ictpolsa/ch5/ch5-toc.htm)

(<http://www.apc.org/books/ictpolsa/ch5/ch5-toc.htm>) --Country-level e-Commerce Policies and Strategies in the SADC Region.

[Discussion Paper on Electronic Commerce](http://www.ecomm-debate.co.za/docs/discuss-contents.html) (<http://www.ecomm-debate.co.za/docs/discuss-contents.html>) - July 1999 -- Discussion of issues related to e-commerce policy in South Africa.

[A GREEN PAPER ON ELECTRONIC COMMERCE FOR SOUTH AFRICA: EXECUTIVE SUMMARY](http://www.ecomm-debate.co.za/greenpaper/execsumm/DOC_e-comm_exec_main.htm) (http://www.ecomm-debate.co.za/greenpaper/execsumm/DOC_e-comm_exec_main.htm)

[Policy issues relating to ACCESS TO PARTICIPATION IN ELECTRONIC](#)

COMMERCE. (<http://www.unctad.org/en/special/c3d16.htm>)
Report by the UNCTAD secretariat (circulated in TD/B/COM.3/16)

A Framework for Global Electronic Commerce,
(<http://www.ecommerce.gov/framework.htm>) THE WHITE HOUSE,
July 1, 1997

E-Strategies

SMALL AND MEDIUM ENTERPRISES (SMEs) IN GLOBALIZATION
(<http://www.isbc2001.org/home/RMPHewaliyanage.pdf>)

[PDF] **ASIAN TRADE PROMOTION BULLETIN**
(http://www.jetro.go.jp/atpf/e/info/bulletin/no10/pdf/1_11.pdf) TPO
Strategies Using Information Technology

[PDF] **E-Promotion**
(<http://www.intracen.org/execforum/docs/ef2000/db24rao.pdf>)

[PDF] **An e-strategy of Pakistan EPB: Export Promotion in the Digital Economy**
([http://www.jetro.go.jp/atpf/e/info/bulletin/no11/pdf/epb\(p\).pdf](http://www.jetro.go.jp/atpf/e/info/bulletin/no11/pdf/epb(p).pdf))
File Format: PDF/Adobe Acrobat - [View as HTML](#)

Other Links

THE ALL-AFRICA INTERNET GUIDE
(<http://www.goafrica.co.za/africa/zambia.stm>)

THE AFRICAN INTERNET
(<http://www.itu.int/africainternet2000/Documents/documents.html>)

Common Market for Eastern and Southern Africa (COMESA)
(<http://www.comesa.int/>), located in Lusaka, maintains a website which provides a comprehensive range of information for 21 member states. **COMESA's** main focus is the formation of a large economic and trading unit capable of overcoming some of the barriers that are faced by individual states.

The EIU's e-business readiness rankings, May 2000
(http://www.ebusinessforum.com/index.asp?layout=rich_story&doc_id=3331)

Risk E-Business: Seizing the Opportunity of Global E-Readiness
(<http://www.mcconnellinternational.com/ereadiness/EReadinessReport>)

t.htm)

[bridges.org - report on e-readiness assessment tools](http://www.bridges.org/ereadiness/tools.html)
(http://www.bridges.org/ereadiness/tools.html)

[APEC E-commerce readiness assessment guide](http://www.ecommerce.gov/apec/docs/readiness_guide_files/readiness_guide_5.pdf)
(http://www.ecommerce.gov/apec/docs/readiness_guide_files/readiness_guide_5.pdf)

[Leland Initiative Internet Resource Center](http://www.usaid.gov/leland/resenglish/ialinken.htm)
(http://www.usaid.gov/leland/resenglish/ialinken.htm)

[The Global Diffusion of the Internet: Patterns and Problems](http://som.csudh.edu/fac/lpress/sy.htm)
(http://som.csudh.edu/fac/lpress/sy.htm)

[Survey of Leather Supply -- EBZ](http://www.intracen.org/iatp/surveys/leather/leazam.pdf)
(http://www.intracen.org/iatp/surveys/leather/leazam.pdf)

[Zambia RIFF Work Programme- Regional Integration Facilitation Forum\(RIFF\)](http://www.comesa.int/business/riffzamwp1.htm)
(http://www.comesa.int/business/riffzamwp1.htm) REVISED ANNUAL WORK PROGRAMME AND COST ESTIMATE FOR THE ZAMBIA TECHNICAL WORKING GROUP: JUNE 2001 – MAY 2002

[International Trade Centre](http://www.agroviet.gov.vn/tradepoint/cl_la894.html)
(http://www.agroviet.gov.vn/tradepoint/cl_la894.html)

[United States. Agency for International Development - Zambia](http://www.info.usaid.gov/zm/index.html)
(http://www.info.usaid.gov/zm/index.html) Facts about Zambia, USAID's program in Zambia

[United States. Embassy. Zambia](http://www.usemb.org.zm/) (http://www.usemb.org.zm/)

Profile of the Ambassador, information for travelers to Zambia, the Democracy and Human Rights Fund for small projects, etc

Annex II.

INFORMATION TECHNOLOGY: MINISTERIAL DECLARATION

Singapore, 13 December 1996

Ministerial Declaration on Trade in Information Technology Products

Ministers,

Representing the following Members of the World Trade Organization ("WTO"), and States or separate customs territories in the process of acceding to the WTO, which have agreed in Singapore on the expansion of world trade in information technology products and which account for well over 80 per cent of world trade in these products ("parties"):

- Australia
- Japan
- Canada
- Korea
- Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu
- Norway
- European Communities
- Singapore
- Hong Kong
- Switzerland
- Iceland
- Turkey
- Indonesia
- United States

Considering the key role of trade in information technology products in the development of information industries and in the dynamic expansion of the world economy,

Recognizing the goals of raising standards of living and expanding the production of and trade in goods;

Desiring to achieve maximum freedom of world trade in information technology products;

Desiring to encourage the continued technological development of the information technology industry on a world-wide basis;

Mindful of the positive contribution information technology makes to global economic growth and welfare;

Having agreed to put into effect the results of these negotiations which involve concessions additional to those included in the Schedules attached to the Marrakesh Protocol to the General Agreement on Tariffs and Trade 1994, and

Recognizing that the results of these negotiations also involve some concessions offered in negotiations leading to the establishment of Schedules annexed to the Marrakesh Protocol,

Declare as follows:

1. Each party's trade regime should evolve in a manner that enhances market access opportunities for information technology products.
2. Pursuant to the modalities set forth in the Annex to this Declaration, each party shall bind and eliminate customs duties and other duties and charges of any kind, within the meaning of Article II:1(b) of the General Agreement on Tariffs and Trade 1994, with respect to the following:

- (a) all products classified (or classifiable) with Harmonized System (1996) ("HS") headings listed in Attachment A to the Annex to this Declaration; and
- (b) all products specified in Attachment B to the Annex to this Declaration, whether or not they are included in Attachment A;

through equal rate reductions of customs duties beginning in 1997 and concluding in 2000, recognizing that extended staging of reductions and, before implementation, expansion of product coverage may be necessary in limited circumstances.

3. Ministers express satisfaction about the large product coverage outlined in the Attachments to the Annex to this Declaration. They instruct their respective officials to make good faith efforts to finalize plurilateral technical discussions in Geneva on the basis of these modalities, and instruct these officials to complete this work by 31 January 1997, so as to ensure the implementation of this Declaration by the largest number of participants.
4. Ministers invite the Ministers of other Members of the WTO, and States or separate customs territories in the process of acceding to the WTO, to provide similar instructions to their respective officials, so that they may participate in the technical discussions referred to in paragraph 3 above and participate fully in the expansion of world trade in information technology products.

Annex: Modalities and Product Coverage

Attachment A: list of HS headings

Attachment B: list of products

Annex: Modalities and Product Coverage [Back to top](#)

Any Member of the World Trade Organization, or State or separate customs territory in the

process of acceding to the WTO, may participate in the expansion of world trade in information technology products in accordance with the following modalities:

1. Each participant shall incorporate the measures described in paragraph 2 of the Declaration into its schedule to the General Agreement on Tariffs and Trade 1994, and, in addition, at either its own tariff line level or the Harmonized System (1996) ("HS") 6-digit level in either its official tariff or any other published versions of the tariff schedule, whichever is ordinarily used by importers and exporters. Each participant that is not a Member of the WTO shall implement these measures on an autonomous basis, pending completion of its WTO accession, and shall incorporate these measures into its WTO market access schedule for goods.
2. To this end, as early as possible and no later than 1 March 1997 each participant shall provide all other participants a document containing (a) the details concerning how the appropriate duty treatment will be provided in its WTO schedule of concessions, and (b) a list of the detailed HS headings involved for products specified in Attachment B. These documents will be reviewed and approved on a consensus basis and this review process shall be completed no later than 1 April 1997. As soon as this review process has been completed for any such document, that document shall be submitted as a modification to the Schedule of the participant concerned, in accordance with the Decision of 26 March 1980 on Procedures for Modification and Rectification of Schedules of Tariff Concessions (BISD 27S/25).

(a) The concessions to be proposed by each participant as modifications to its Schedule shall bind and eliminate all customs duties and other duties and charges of any kind on information technology products as follows:

(i) elimination of such customs duties shall take place through rate reductions in equal steps, except as may be otherwise agreed by the participants. Unless otherwise agreed by the participants, each participant shall bind all tariffs on items listed in the Attachments no later than 1 July 1997, and shall make the first such rate reduction effective no later than 1 July 1997, the second such rate reduction no later than 1 January 1998, and the third such rate reduction no later than 1 January 1999, and the elimination of customs duties shall be completed effective no later than 1 January 2000. The participants agree to encourage autonomous elimination of customs duties prior to these dates. The reduced rate should in each stage be rounded off to the first decimal; and

(ii) elimination of such other duties and charges of any kind, within the meaning of Article II:1(b) of the General Agreement, shall be completed by 1 July 1997, except as may be otherwise specified in the participant's document provided to other participants for review.

(b) The modifications to its Schedule to be proposed by a participant in order to implement its binding and elimination of customs duties on information technology products shall achieve this result:

(i) in the case of the HS headings listed in Attachment A, by creating, where appropriate, sub-divisions in its Schedule at the national tariff line level; and

(ii) in the case of the products specified in Attachment B, by attaching an annex to

its Schedule including all products in Attachment B, which is to specify the detailed HS headings for those products at either the national tariff line level or the HS 6-digit level.

Each participant shall promptly modify its national tariff schedule to reflect the modifications it has proposed, as soon as they have entered into effect.

3. Participants shall meet periodically under the auspices of the Council on Trade in Goods to review the product coverage specified in the Attachments, with a view to agreeing, by consensus, whether in the light of technological developments, experience in applying the tariff concessions, or changes to the HS nomenclature, the Attachments should be modified to incorporate additional products, and to consult on non-tariff barriers to trade in information technology products. Such consultations shall be without prejudice to rights and obligations under the WTO Agreement.
4. Participants shall meet as soon as practicable and in any case no later than 1 April 1997 to review the state of acceptances received and to assess the conclusions to be drawn therefrom. Participants will implement the actions foreseen in the Declaration provided that participants representing approximately 90 per cent of world trade in information technology products have by then notified their acceptance, and provided that the staging has been agreed to the participants' satisfaction. In assessing whether to implement actions foreseen in the Declaration, if the percentage of world trade represented by participants falls somewhat short of 90 per cent of world trade in information technology products, participants may take into account the extent of the participation of States or separate customs territories representing for them the substantial bulk of their own trade in such products. At this meeting the participants will establish whether these criteria have been met.
5. Participants shall meet as often as necessary and no later than 30 September 1997 to consider any divergence among them in classifying information technology products, beginning with the products specified in Attachment B. Participants agree on the common objective of achieving, where appropriate, a common classification for these products within existing HS nomenclature, giving consideration to interpretations and rulings of the Customs Co-operation Council (also known as the World Customs Organization or "WCO"). In any instance in which a divergence in classification remains, participants will consider whether a joint suggestion could be made to the WCO with regard to updating existing HS nomenclature or resolving divergence in interpretation of the HS nomenclature.
6. The participants understand that Article XXIII of the General Agreement will address nullification or impairment of benefits accruing directly or indirectly to a WTO Member participant through the implementation of this Declaration as a result of the application by another WTO Member participant of any measure, whether or not that measure conflicts with the provisions of the General Agreement.
7. Each participant shall afford sympathetic consideration to any request for consultation from any other participant concerning the undertakings set out above. Such consultations shall be without prejudice to rights and obligations under the WTO Agreement.
8. Participants acting under the auspices of the Council for Trade in Goods shall inform other Members of the WTO and States or separate customs territories in the process of acceding to the WTO of these modalities and initiate consultations with a view to facilitate their participation in the expansion of trade in information technology products on the basis of the Declaration.

9. As used in these modalities, the term "participant" shall mean those Members of the WTO, or States or separate customs territories in the process of acceding to the WTO, that provide the document described in paragraph 2 no later than 1 March 1997.
10. This Annex shall be open for acceptance by all Members of the WTO and any State or any separate customs territory in the process of acceding to the WTO. Acceptances shall be notified in writing to the Director-General who shall communicate them to all participants.

There are two attachments to the Annex. Attachment A lists the HS headings or parts thereof to be covered. Attachment B lists specific products to be covered by an ITA wherever they are classified in the HS .

Attachment A, Section 1 [Back to top](#)

HS96	HS description
3818	Chemical elements doped for use in electronics, in form of discs, wafers or similar forms; chemical compounds doped for use in electronics
8469 11	Word processing machines
8470	Calculating machines and pocket-size data recording, reproducing and displaying machines with a calculating function; cash registers, postage franking machines, ticket issuing machines and similar machines, incorporating a calculating device; cash registers
8470 10	Electronic calculators capable of operating without an external source of electric power and pocket size data recording, reproducing and displaying machines with calculating functions
8470 21	Other electronic calculating machines incorporating a printing device
8470 29	Other
8470 30	Other calculating machines
8470 40	Accounting machines
8470 50	Cash registers
8470 90	Other
8471	Automatic data processing machines and units thereof; magnetic or optical readers, machines for transcribing data onto data coded form and machines for processing such data, not elsewhere specified or included:
8471 10	Analogue or hybrid automatic data processing machines
8471 30	Portable digital automatic data processing machines, weighing no more than 10 kg, consisting of at least a central processing unit, keyboard and a display
8471 41	Other digital automatic data processing machines comprising in the same housing at least a central processing unit and an input or output unit, whether or not combined
8471 49	Other digital automatic data processing machines presented in the form of systems
8471 50	Digital processing units other than those of subheading 8471 41 and 8471 49, whether or not in the same housing one or two of the following types of units : storage units, input units, output units
8471 60	Input or output units, whether or not containing storage units in the same housing
8471 70	Storage units, including central storage units, optical disk storage units, hard disk drives and magnetic tape storage units
8471 80	Other units of automatic data processing machines
8471 90	Other
ex 8472 90	Automatic teller machines
8473 21	Parts and accessories of the machines of heading No 8470 of the electronic calculating machines of subheading 8470 10, 8470 21 and 8470 29
8473 29	Parts and accessories of the machines of heading No 8470 other than the electronic calculating machines of subheading 8470 10, 8470 21 and 8470 29

	8473	30	Parts and accessories of the machines of heading No 8471
	8473	50	Parts and accessories equally suitable for use with machines of two or more of the headings Nos. 8469 to 8472
ex	8504	40	Static converters for automatic data processing machines and units thereof, and telecommunication apparatus
ex	8504	50	Other inductors for power supplies for automatic data processing machines and units thereof, and telecommunication apparatus
	8517		Electrical apparatus for line telephony or line telegraphy, including line telephone sets with cordless handsets and telecommunication apparatus for carrier current line systems or for digital line systems; videophones:
	8517	11	Line telephone sets with cordless handsets
	8517	19	Other telephone sets and videophones
	8517	21	Facsimile machines
	8517	22	Teleprinters
	8517	30	Telephonic or telegraphic switching apparatus
	8517	50	Other apparatus, for carrier current line systems or for digital line systems
	8517	80	Other apparatus including entryphone systems
	8517	90	Parts of apparatus of heading 8517
ex	8518	10	Microphones having a frequency range of 300 Hz to 3,4 KHz with a diameter of not exceeding 10 mm and a height not exceeding 10 mm for telecommunication use
ex	8518	30	Line telephone handsets
ex	8518	29	Loudspeakers, without housing, having a frequency range of 300 Hz to 3,4 KHz with a diameter of not exceeding 50 mm for telecommunication use
	8520	20	Telephone answering machines
	8523	11	Magnetic tapes of a width not exceeding 4 mm
	8523	12	Magnetic tapes of a width exceeding 4 mm but not exceeding 6,5 mm
	8523	13	Magnetic tapes of a width exceeding 6,5 mm
	8523	20	Magnetic discs
	8523	90	Other
	8524	31	Discs for laser reading systems for reproducing phenomena other than sound or image
			Other :
ex	8524	39	Media for reproducing representations of instructions, data, sound, and image, recorded in a machine readable binary form, and capable of being manipulated or providing interactivity to a user, by means of an automatic data processing machine
	8524	40	Magnetic tapes for reproducing phenomena other than sound or image
	8524	91	Media for reproducing phenomena other than sound or image
			Other :
ex	8424	99	Media for reproducing representations of instructions, data, sound, and image, recorded in a machine readable binary form, and capable of being manipulated or providing interactivity to a user, by means of an automatic data processing machine
ex	8525	10	Transmission apparatus other than apparatus for radiobroadcasting or television
	8525	20	Transmission apparatus incorporating reception apparatus
ex	8525	40	Digital still image video cameras
ex	8527	90	Portable receivers for calling, alerting or paging
ex	8529	10	Aerials or antennae of a kind used with apparatus for radiotelephony and radiotelegraphy
			Parts of:
ex	8529	90	transmission apparatus other than apparatus for radiobroadcasting or television
			transmission apparatus incorporating reception apparatus

		digital still image video cameras,
		portable receivers for calling, alerting or paging
8531	20	Indicator panels incorporating liquid crystal devices (LCD) or light emitting diodes (LED)
ex 8531	90	Parts of apparatus of subheading 8531 20
8532		Electrical capacitors, fixed, variable or adjustable (præset):
8532	10	Fixed capacitors designed for use in 50/60 Hz circuits and having a reactive power handling capacity of not less than 0,5 kvar (capacitors)
8532	21	Tantalum fixed capacitors
8532	22	Aluminium electrolytic fixed capacitors
8532	23	Ceramic dielectric, single layer fixed capacitors
8532	24	Ceramic dielectric, multilayer fixed capacitors
8532	25	Dielectric fixed capacitors of paper or plastics
8532	29	Other fixed capacitors
8532	30	Variable or adjustable (præset) capacitors
8532	90	Parts
8533		Electrical resistors (including rheostats and potentiometers), other than heating resistors:
8533	10	Fixed carbon resistors, composition or film types
8533	21	Other fixed resistors for a power handling capacity not exceeding 20 W
8533	29	Other fixed resistors for a power handling capacity of 20 W or more
8533	31	Wirewound variable resistors, including rheostats and potentiometers, for a power handling capacity not exceeding 20 W
8533	39	Wirewound variable resistors, including rheostats and potentiometers, for a power handling capacity of 20 W or more
8533	40	Other variable resistors, including rheostats and potentiometers
8533	90	Parts
8534		Printed circuits
ex 8536	50	Electronic AC switches consisting of optically coupled input and output circuits (Insulated thyristor AC switches)
ex 8536	50	Electronic switches, including temperature protected electronic switches, consisting of a transistor and a logic chip (chip technology) for a voltage not exceeding 1000 volts
ex 8536	50	Electromechanical snapaction switches for a current not exceeding 11 amps
ex 8536	69	Plugs and sockets for coaxial cables and printed circuits
ex 8536	90	Connection and contact elements for wires and cables
8541		Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; lightemitting diodes; mounted piezoelectric crystals:
8541	10	Diodes, other than photosensitive or lightemitting diodes
8541	21	Transistors, other than photosensitive transistors, with a dissipation rate of less than 1 W
8541	29	Transistors, other than photosensitive transistors, with a dissipation rate of 1 W or more
8541	30	Thyristors, diacs and triacs, other than photosensitive devices
8541	40	Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; lightemitting diodes
8541	50	Other semiconductor devices
8541	60	Mounted piezoelectric crystals
8541	90	Parts
8542		Electronic integrated circuits and microassemblies
8542	12	Cards incorporating an electronic integrated circuit ('smart' cards)

8542	13	Metal oxide semiconductors (MOS technology)
8542	14	Circuits obtained by bipolar technology
8542	19	Other monolithic digital integrated circuits, including circuits obtained by a combination of bipolar and MOS technologies (technology)
8542	30	Other monolithic integrated circuits
8542	40	Hybrid integrated circuits
8542	50	Electronic microassemblies
8542	90	Part
8543	81	Proximity cards and tags
ex 8543	89	Electrical machines with translation or dictionary functions
ex 8544	41	Other electric conductors, for a voltage not exceeding 80 V, fitted with connectors, of a kind used for telecommunications
ex 8544	49	Other electric conductors, for a voltage not exceeding 80 V, not fitted with connectors, of a kind used for telecommunications
ex 8544	51	Other electric conductors, for a voltage exceeding 80 V but not exceeding 1000 V, fitted with connectors, of a kind used for telecommunications
8544	70	Optical fibre cables
9009	11	Electrostatic photocopying apparatus, operating by reproducing the original image directly onto the copy (direct process)]
9009	21	Other photocopying apparatus, incorporating an optical system
9009	90	Parts and accessories
9026		Instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases (for example, meters, level gauges, manometers, heat meters), excluding instruments and apparatus of heading No 9014, 9015, 9028 or 9032:
9026	10	Instruments for measuring or checking the flow or level of liquids
9026	20	Instruments and apparatus for measuring or checking pressure
9026	80	Other instruments and apparatus for measuring or checking of heading 9026
9026	90	Parts and accessories of instruments and apparatus of heading 9026
9027	20	Chromatographs and electrophoresis instruments
9027	30	Spectrometers, spectrophotometers and spectrographs using optical radiations (UV, visible, IR)
9027	50	Other instruments and apparatus using optical radiations (UV, visible, IR) of heading No 9027
9027	80	Other instruments and apparatus of heading No 9027 (other than those of heading No 9027 10)
ex 9027	90	Parts and accessories of products of heading 9027, other than for gas or smoke analysis apparatus and microtomes
9030	40	Instruments and apparatus for measuring and checking, specially designed for telecommunications (for example, crosstalk measuring instruments, distortion factor meters, psophometers)

Attachment A, Section 2 [Back to top](#)
Semiconductor manufacturing and testing equipment and parts thereof

HS Code	Description	Comments
ex 7017 10	Quartz reactor tubes and holders designed for insertion into diffusion and oxidation furnaces for production of semiconductor wafers	For Attachment
ex 8419 89	Chemical vapor deposition apparatus for semiconductor production	For Attachment
ex 8419 90	Parts of chemical vapor deposition apparatus for semiconductor production	For Attachment
ex 8421 19	Spin dryers for semiconductor wafer processing	
ex 8421 91	Parts of spin dryers for semiconductor wafer processing	
ex 8424 89	Deflash machines for cleaning and removing contaminants from the metal leads of semiconductor packages prior to the electroplating process	

ex	8424 89	Spraying appliances for etching, stripping or cleaning semiconductor wafers	
ex	8424 90	Parts of spraying appliances for etching, stripping or cleaning semiconductor wafers	
ex	8456 10	Machines for working any material by removal of material, by laser or other light or photo beam in the production of semiconductor wafers	
ex	8456 91	Apparatus for stripping or cleaning semiconductor wafers	For Attach
	8456 91	Machines for dryetching patterns on semiconductor materials	
ex	8456 99	Focused ion beam milling machines to produce or repair masks and reticles for patterns on semiconductor devices	
ex	8456 99	Lasercutters for cutting contacting tracks in semiconductor production by laser beam	For Attach
ex	8464 10	Machines for sawing monocrystal semiconductor boules into slices, or wafers into chips	For Attach
ex	8464 20	Grinding, polishing and lapping machines for processing of semiconductor wafers	
ex	8464 90	Dicing machines for scribing or scoring semiconductor wafers	
ex	8466 91	Parts for machines for sawing monocrystal semiconductor boules into slices, or wafers into chips	For Attach
ex	8466 91	Parts of dicing machines for scribing or scoring semiconductor wafers	For Attach
ex	8466 91	Parts of grinding, polishing and lapping machines for processing of semiconductor wafers	
ex	8466 93	Parts of focused ion beam milling machines to produce or repair masks and reticles for patterns on semiconductor devices	
ex	8466 93	Parts of lasercutters for cutting contacting tracks in semiconductor production by laser beam	For Attach
ex	8466 93	Parts of machines for working any material by removal of material, by laser or other light or photo beam in the production of semiconductor wafers	
ex	8456 93	Parts of apparatus for stripping or cleaning semiconductor wafers	For Attach
ex	8466 93	Parts of machines for dryetching patterns on semiconductor materials	
ex	8477 10	Encapsulation equipment for assembly of semiconductors	For Attach
ex	8477 90	Parts of encapsulation equipment	For Attach
ex	8479 50	Automated machines for transport, handling and storage of semiconductor wafers, wafer cassettes, wafer boxes and other material for semiconductor devices	For Attach
ex	8479 89	Apparatus for growing or pulling monocrystal semiconductor boules	
ex	8479 89	Apparatus for physical deposition by sputtering on semiconductor wafer s	For Attach
ex	8479 89	Apparatus for wet etching, developing, stripping or cleaning semiconductor wafers and flat panel displays	For Attach
ex	8479 89	Die attach apparatus, tape automated bonders, and wire bonders for assembly of semiconductors	For Attach
ex	8479 89	Encapsulation equipment for assembly of semiconductors	For Attach
ex	8479 89	Epitaxial deposition machines for semiconductor wafers	
ex	8479 89	Machines for bending, folding and straightening semiconductor leads	For Attach
ex	8479 89	Physical deposition apparatus for for semiconductor production	For Attach
ex	8479 89	Spinners for coating photographic emulsions on semiconductor wafers	For Attach
ex	8479 90	Part of apparatus for physical deposition by sputtering on semiconductor wafers	For Attach
ex	8479 90	Parts for die attach apparatus, tape automated bonders, and wire bonders for assembly of semiconductors	For Attach
ex	8479 90	Parts for spinners for coating photographic emulsions on semiconductor wafers	For Attach

ex 8479 90	Parts of apparatus for growing or pulling monocrystal semiconductor boules	
ex 8479 90	Parts of apparatus for wet etching, developing, stripping or cleaning semiconductor wafers and flat panel displays	For Attach
ex 8479 90	Parts of automated machines for transport, handling and storage of semiconductor wafers, wafer cassettes, wafer boxes and other material for semiconductor devices	For Attach
ex 8479 90	Parts of encapsulation equipment for assembly of semiconductors	For Attach
ex 8479 90	Parts of epitaxial deposition machines for semiconductor wafers	
ex 8479 90	Parts of machines for bending, folding and straightening semiconductor leads	For Attach
ex 8479 90	Parts of physical deposition apparatus for for semiconductor production	For Attach
ex 8480 71	Injection and compression moulds for the manufacture of semiconductor devices	
ex 8514 10	Resistance heated furnaces and ovens for the manufacture of semiconductor devices on semiconductor wafers	
ex 8514 20	Inductance or dielectric furnaces and ovens for the manufacture of semiconductor devices on semiconductors wafers	
ex 8514 30	Apparatus for rapid heating of semiconductor wafers	For Attach
ex 8514 30	Parts of resistance heated furnaces and ovens for the manufacture of semiconductor devices on semiconductor wafers	
ex 8514 90	Parts of apparatus for rapid heating of wafer s	For Attach
ex 8514 90	Parts of furnaces and ovens of Headings No 8514 10 to No 8514 30	
ex 8536 90	Wafer probers	For Attach
8543 11	Ion implanters for doping semiconductor materials	
ex 8543 30	Apparatus for wet etching, developing, stripping or cleaning semiconductor wafers and flat panel displays	For Attach
ex 8543 90	Parts of apparatus for wet etching, developing, stripping or cleaning semiconductor wafers and flat panel displays	For Attach
ex 8543 90	Parts of ion implanters for doping semiconductor materials	
9010 41 to 9010 49	Apparatus for projection, drawing or plating circuit patterns on sensitized semiconductor materials and flat panel displays	
ex 9010 90	Parts and accessories of the apparatus of Headings No 9010 41 to 9010 49	
ex 9011 10	Optical stereoscopic microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9011 20	Photomicrographic microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9011 90	Parts and accessories of optical stereoscopic microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9011 90	Parts and accessories of photomicrographic microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9012 10	Electron beam microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9012 90	Parts and accessories of electron beam microscopes fitted with equipment specifically designed for the handling and transport of semiconductor wafers or reticles	For Attach
ex 9017 20	Pattern generating apparatus of a kind used for producing masks or reticles from photoresist coated substrates	For Attach
ex 9017 90	Parts and accessories for pattern generating apparatus of a kind used for producing masks or reticles from photoresist coated substrates	For Attach
ex 9017 90	Parts of such pattern generating apparatus	For Attach
9030 82	Instruments and apparatus for measuring or checking semiconductor wafers or devices	
ex 9030 90	Parts and accessories of instruments and apparatus for measuring or checking semiconductor wafers or devices	
ex 9030 90	Parts of instruments and appliances for measuring or checking semiconductor wafers or devices	

	9031 41	Optical instruments and appliances for inspecting semiconductor wafers or devices or for inspecting masks, photomasks or reticles used in manufacturing semiconductor devices	
ex	9031 49	Optical instruments and appliances for measuring surface particulate contamination on semiconductor wafers	
ex	9031 90	Parts and accessories of optical instruments and appliances for inspecting semiconductor wafers or devices or for inspecting masks, photomasks or reticles used in manufacturing semiconductor devices	
ex	9031 90	Parts and accessories of optical instruments and appliances for measuring surface particulate contamination on semiconductor wafers	

Attachment B

Positive list of specific products to be covered by this agreement wherever they are classified in the HS. Where parts are specified, they are to be covered in accordance with HS Notes 2(b) to Section XVI and Chapter 90, respectively.

Computers: automatic data processing machines capable of 1) storing the processing program or programs and at least the data imm necessary for the execution of the program; 2) being freely programmed in accordance with the requirements of the user; 3) per arithmetical computations specified by the user; and 4) executing, without human intervention, a processing program which requires 1 modify their execution, by logical decision during the processing run.

The agreement covers such automatic data processing machines whether or not they are able to receive and process with the assistance of processing unit telephony signals, television signals, or other analogue or digitally processed audio or video signals. Machines perform a function other than data processing, or incorporating or working in conjunction with an automatic data processing machine, and not of specified under Attachment A or B, are not covered by this agreement.

Electric amplifiers when used as repeaters in line telephony products falling within this agreement, and parts thereof

Flat panel displays (including LCD, Electro Luminescence, Plasma and other technologies) for products falling within this agreement, and thereof.

Network equipment: Local Area Network (LAN) and Wide Area Network (WAN) apparatus, including those products dedicated for use s principally to permit the interconnection of automatic data processing machines and units thereof for a network that is used primarily sharing of resources such as central processor units, data storage devices and input or output units including adapters, hubs, inline r converters, concentrators, bridges and routers, and printed circuit assemblies for physical incorporation into automatic data processing m and units thereof.

Monitors : display units of automatic data processing machines with a cathode ray tube with a dot screen pitch smaller than 0,4 mm not ca receiving and processing television signals or other analogue or digitally processed audio or video signals without assistance of a central pr unit of a computer as defined in this agreement.

The agreement does not, therefore, cover televisions, including high definition televisions.

Optical disc storage units, for automatic data processing machines (including CD drives and DVDdrives), whether or not having the capa writing/recording as well as reading, whether or not in their own housings.

Paging alert devices , and parts thereof .

Plotters whether input or output units of HS heading No 8471 or drawing or drafting machines of HS heading No 9017.

Printed Circuit Assemblies for products falling within this agreement, including such assemblies for external connections such as cards that to the PCMCIA standard.

Such printed circuit assemblies consist of one or more printed circuits of heading 8534 with one or more active elements assembled there or without passive elements "Active elements" means diodes, transistors, and similar semiconductor devices, whether or not photosensi heading 8541, and integrated circuits and micro assemblies of heading 8542.

Projection type flat panel display units used with automatic data processing machines which can display digital information generated central processing unit.

Proprietary format storage devices including media therefor for automatic data processing machines, with or without removable media and magnetic, optical or other technology, including Bernoulli Box, Syquest, or Zipdrive cartridge storage units.

Multimedia upgrade kits for automatic data processing machines, and units thereof, put up for retail sale, consisting of, at least, speakers microphones as well as a printed circuit assembly that enables the ADP machines and units thereof to process audio signals (sound cards).

Set top boxes which have a communication function : a microprocessorbased device incorporating a modem for gaining access to the Inter having a function of interactive information exchange

Annex III

LIST OF PARTICIPANTS AT THE ZAMTIE E-COMMERCE WORKSHOP HELD AT PAMODZI HOTEL ON FRIDAY 1 FEBRUARY 2002

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