



Aldo Ventures, Inc.

Developing Sri Lanka's Software Industry Report to the World Bank

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This field report is based on a two-week mission to Sri Lanka in June 2002 to study the role of information and communications technology (ICT) in the country's future development. The principal goal of the mission was to give technical advice to the government of Sri Lanka (GoSL) on a proposed Roadmap for ICT Success in Sri Lanka.¹ Other members of the mission focused on the issues of ministerial organization for ICT strategy implementation, telecommunications policy and infrastructure, mass media policy, and e-government.

Our focus was on the potential economic impact of Sri Lanka's software industry. We also considered ICT-enabled industries, including call centers and outsourced clerical and professional services. While our main task was to assess the potential for economic growth through these export-focused industries, we recognize that the impact of ICT cuts across all sectors, and that the health of other sectors effects, in turn, the growth of ICT. Strength in ICT has become an important factor in foreign direct investment. It is also now a major component of modern government administration. Finally, there is the direct impact of ICT on citizens through distance learning, telemedicine, and cultural offerings. ICT policy is complicated by this broad ranging impact on business, government and the public. We focus in this memo on the development of exports in software and ICT-enabled services.

We believe there is potential for rapid development of both software exports and ICT-enabled services. Even in the current difficult environment, Sri Lankan software entrepreneurs are making progress. Small investments to support these entrepreneurial activities, whether by the government or by outside sources, could make a very significant impact if properly targeted. Overall economic growth could be significantly enhanced by the technology sector in just two or three years:

- 1) Increased export revenues (from products, services, technology licensing);
- 2) Increased foreign investment and the creation of thousands of good jobs, especially in ICT-enabled businesses;
- 3) Improved global competitiveness of companies in other economic sectors (textiles, agriculture, hospitality, etc.); and

¹ The Roadmap, we discovered, is an evolving set of ideas about various aspects of ICT based on studies and proposals done over the last year by the Ceylon Chamber of Commerce, consultants retained by the Swedish International Development Cooperation Agency, the US Agency for International Development, and the Ministry of Economic Reform, Science and Technology.

- 4) More effective implementation of other developmental goals of the GoSL (like education via distance learning, more efficient government operations, establishing Sri Lanka as a regional technology center, etc.).

Three ICT-Related Opportunities

The high level of general literacy and the availability of thousands of (underemployed) university graduates are the key resource that will enable Sri Lanka's response to a number of global business opportunities. The opportunities are of three types:

1. Outsourcing of knowledge work, ranging from clerical to creative. Pioneered over the last five years or so, it is now established practice for businesses in the US and Europe to outsource functions like data entry, medical transcription, claims processing, call centers, design, translation, and engineering. This work requires, minimally, foreign-language skills and computer literacy. During the next few years, the market for this kind of outsourced knowledge work is expected to expand dramatically throughout the world² and is a major target for growth in India and a number of other countries.

*In his inaugural address, the Chief Minister stated that the Information Technology Enabled Services industry is a huge growth opportunity for India. Nearly a million jobs will be created for educational graduates in the industry and his vision is to capture a significant proportion of those jobs by making Andhra Pradesh the pre-eminent global hub for ITES/Business Process Outsourcing (BPO)*³

2. Outsourcing of software work (software services), ranging from low-level maintenance to cutting-edge software development to consulting and systems design. This work requires skills of several kinds: programming, project management, client relations, etc., and will attract both Sri Lankan companies and foreign firms who set up shop in Sri Lanka. Attracting the large foreign software companies will depend on the availability of hard working, highly-skilled workers, regionally competitive wages and telecommunications costs, and first-class international transportation facilities.
3. The worldwide software industry continues to offer new markets for new products (in addition to the software services mentioned above). New software technologies, new platforms (PCs, mobile phones, ERP databases, ...), new applications, and new geographical markets appear every year, as the price of computing continues to fall. Sri Lankan software entrepreneurs are active in this software-publishing arena. Success in this business requires the highest level of software skills: inventive technology and deep knowledge of the domain; software architects (who understand the world of platforms and tools); top-notch programmers; general business acumen; global marketing; rapid

² See, for example, BusinessWorld, *The BPO Boom*, January 14, 2002.

³ Re: Shri N. Chandrababu Naidu, Honorable Chief Minister of Andhra Pradesh, in his inaugural address to the ITES Strategy Summit, 10th June 2002, Hyderabad. <http://www.ap-it.com/itessummitnews.html>.

business evolution (to hit an always-changing market at just the right time); and significant amounts of risk taking (almost all software startups fail). This segment also offers the highest rewards for success.

To exploit these opportunities, government policy must focus on the key human resource, as well as on industry stimulation and promotion through both direct incentives and regulatory reform.

Key Enablers – An Executive Summary

How can Sri Lanka get there from here? Here are our top-level bullets for expediting the growth of the software and ICT-enabled services industries. These and others are explained more fully in the sections that follow on “Human Resources” and “Regulation, Stimulation and Promotion.”

- Investment in primary and secondary education in both computer literacy and English language. Skill level testing in both areas for university admission to any course of study.
- Intensive post-secondary school (and post graduate) training programs in English, computer literacy, and customer service operations to create a pool of 50,000 top-notch people prepared for call-center and services outsourcing operations in the next 5 years.
- Full autonomy for ICT schools within the public university system to allow them to rapidly move toward more competitive advanced ICT education.
- Gradual modernization and automation of major government departments, with some projects targeted for Sri Lankan vendors to boost the domestic software industry.
- Fast-tracked legislation and administrative reform to remove obstacles from Sri Lankan companies and foreign investors, e.g., intellectual property rights, labor pool flexibility, immigration, bankruptcy, and venture finance.
- Small “trade mission” efforts to promote Sri Lankan software companies in targeted markets (Middle East, Scandinavia, US) and to raise the image of Sri Lanka as a technology center.
- De-regulation and increased competition in digital telecommunications -- ICT-enabled businesses cannot be started until overseas telecommunications charges are regionally competitive.
- A showcase technology park or industry zone, demonstrating SL’s business-friendly environment, infrastructure, and human resources.

Perhaps the most important industry enabler will be for the government to take the fledgling software sector seriously, with leaders demonstrating personal interest. While most of these companies are very small in terms of number of people employed or annual revenue, they are a key component to the future of the country. Putting the government’s weight behind the industry will send the right messages, both here and abroad. A powerful example is that of Malaysia. In just a few years’ time, the West has come to perceive Malaysia as a technology center, primarily as a result of the global promotion efforts of Dr. Mahathir personally.

Responding to a Fast-Changing Marketplace – Seizing the Moment

The opportunities that exist for Sri Lanka today in the ICT sector are not static. Both the nature of the business possibilities and the status and positioning of other countries pursuing the same business will change rapidly. India's rise to credibility in the software services sector in the 1990's, for instance, was made possible by the retooling of corporate IT in the US, Europe and Japan during that period (ERP systems, Y2K audits, and the introduction of e-commerce). The outcome of India's investment in engineering education and telecommunications infrastructure might have been very different if her timing was off by 10 years.⁴

There is widespread agreement in Sri Lanka that a high literacy rate is a key ingredient for a successful society. In the future, however, a 92% literacy rate will mean little without a comparable level of IT literacy. Sri Lanka risks falling behind in all relevant global measures, from productivity to competitiveness to GDP, if concrete measures are not taken soon to support the development of a modern knowledge society. It is not possible to re-enter the global economy of the 1970's!

Decisions must be made now for educational initiatives that may take 10 years to create adequate numbers of graduates. Similarly, bold policy action must be forthcoming with regard to telecommunications, so that the multi-year process of building out the infrastructure can begin. Regulatory reform in ICT-related areas must also continue at a brisker pace so that entrepreneurs can compete unencumbered by outdated laws and policies.

Singapore and Malaysia are well ahead in implementing their respective national ICT strategies. Other potential regional competitors, countries such as Egypt, India, and the Philippines, are already actively pursuing the first phases of their ICT vision. Many of these countries have identified back office services as their entry points into the knowledge economy because of the broader employment opportunities these activities offer. As the ICT-enabled services market develops momentum in the next year or two, Sri Lanka must be poised and ready to compete for this business, or it will be bypassed in favor of countries that have made more headway in strategy implementation. Moreover, without expeditious change, the higher valued-added software segments will continue to be stymied in their growth.

Human Resources to Support ICT Strategy

Every mother in every village wants her children to know IT.
-- Minister Milinda Morogoda⁵

In the preceding sections, a distinction was made among the three basic types of ICT-related business opportunities, since the required training time lengthens for jobs of increasing sophistication. Training more people, or retraining people with outdated or inadequate skills, for ICT-enabled clerical services could be well underway within months of instituting relevant policies and programs. Some types of ICT-enabled services jobs, such as call centers, might also require additional training in English or other languages. Still, with a competitively-priced

⁴ Discussions with Anil Srivastava, former CEO of NASSCOM and founder of AcrossWorld Communications, Inc.

⁵ Conversation with the Minister of Economic Reform, Science and Technology, June 18, 2002

telecom infrastructure in place, and some strong marketing of Sri Lanka as a business destination, this segment of the ICT industry could generate several thousand or even tens of thousands of jobs within the next three to four years.

Improving the quality and quantity of higher-level software professionals will require more planning, more expense, and substantially longer execution. While more difficult to achieve, aiming for a globally competitive software workforce is critical to a small country like Sri Lanka. Without the large number of workers available compared to countries such as China and India, Sri Lanka must effectively leverage the people it has. High-end software products, services, and solutions offer significantly higher opportunities for revenue per employee than ICT-enabled clerical work. Moreover, a software industry based on innovation by highly skilled workers will contribute long-term to the economy, in contrast to ICT-enabled clerical work which will tend to migrate over time to countries with lower per capita income levels.

With regard to ICT-enabled clerical services, there appear to be enough educated people with foreign language skills available in Sri Lanka currently to staff further development of the data entry, transcription and call center service businesses for the near-term (two years). Furthermore, the country's education system is slowly ramping up to graduate more students with both IT literacy and adequate English skills.

For the production of professional software workers however, the situation is not as clear. Only a very small number of university students receive bachelors or masters level degrees in software-related subjects every year (less than 500 yearly graduates). Furthermore, industry opinions about the skill level of these graduates vary – only a small percentage has any depth in computer science (CS) and software engineering. While local companies report adequate availability of mid-level and entry workers in the current sluggish global business climate, all note a growing shortage of programmers and managers with advanced skills. Software professionals recognize that success depends on the availability of at least a few highly skilled technologists; that is, without at least one “A” player on the team, it doesn't matter how many “B” players there are. Ensuring the supply at the high end will require substantial attention going forward so that adequate numbers of skilled graduates are available as the software industry rebounds.

Our HR strategy recommendations below address both the needs of the software industry and the range of ICT-enabled services jobs.

Increase Number Of Qualified Software Professionals

1. **Establishment of Centers of Excellence.** Establish the three proposed centers of excellence at the University of Moratuwa, the University of Colombo, and the Sri Lanka Institute of Information Technology (SLIIT).⁶ These centers will be key, not only as hubs for research activity, but also as leaders in the development of specific plans for improving the quantity and quality of the nation's ICT graduates. The centers should be encouraged, with appropriate support, to develop distance learning curricula to help broaden tertiary education in ICT, including more access to cutting-edge research and advanced topics.

⁶ A Competitiveness Strategy for Sri Lanka's ICT Industry, The Competitive Initiative, USAID, January 2002

As part of the creation process for a center of excellence at SLIIT, clarify this institution's private status in order to assure its freedom to pursue relevant funding opportunities.

2. **Objective Tertiary ICT Education Assessment.** Public educational institutions around the world tend to evolve only very slowly towards producing the kinds of graduates that the ICT industry requires, due to lack of incentives, equipment, affordable Internet access, and qualified/trained teachers. Closing the training gap more quickly than regional competitors could be an important competitive advantage for Sri Lanka. Both quantity considerations and quality requirements at the high-end need to be evaluated so that appropriate measures can be put into place in the near-term.

To get an objective assessment of the situation in the universities, initiate an outside audit of the relevant departments (Computer Science, Software Engineering, Management Information Systems) of Sri Lankan universities and their graduates to identify shortfalls in curriculum, faculty training, and graduation requirements. Improvements based on auditor's recommendations should be addressed immediately. Similar attention should be paid to private institutions offering software degrees at the bachelors and masters level. Such an audit would also be a useful vehicle for addressing the modernization of accreditation criteria.⁷

3. **Support for Software Studies.** Encourage the pursuit of software education at both public and private institutions with tax deferments, tuition grants/loans, and other means. In order to maintain quality, these incentives might be tied to performance evaluations of the institutions. Include masters-level post-graduate and continuing education programs as well as bachelors and bridge programs. In connection with this effort to encourage software education, consider public awareness activities that would encourage high-school students to choose careers in ICT.
4. **Software Education Capacity Expansion.** In conjunction with broad support for software studies, expand the software education capacity at the universities. Attention to teachers' salaries is the most critical element, since software faculty members are highly employable outside the university. Recruiting of part-time faculty from industry should be encouraged, as should continuing education for faculty (e.g., tuition grants, industry consulting, leaves of absence, etc). Expanded research and publishing opportunities would also contribute to faculty retention.
5. **Autonomy for Public University ICT Programs.** Develop a fast-track plan for granting autonomy to public university ICT programs within the next two years, with a longer-term goal of transitioning the entire university system to a fully autonomous status.⁸ ICT programs offer an appropriate proving ground for the benefits of autonomy, since the needs of the highly dynamic ICT industry will drive a more rapid pace of change. The proposed reforms

⁷ Roadmap for ICT Success in Sri Lanka, Draft Final, February 6, 2002

⁸ The National Education Conference, sponsored by the Ceylon Chamber of Commerce, May 2002, has offered a number of sound proposals for the achievement of a "relevant, demand-driven, [and] competitive" tertiary education system. While these proposals address higher education generally, they are particularly relevant to ICT education.

would allow Sri Lankan universities to recreate themselves for the 21st century: to offer creative educational solutions for both local and global industry demands; to develop centers of excellence that will attract the highest caliber of researchers, teachers and students; to develop new collaboration and self-funding opportunities; and to streamline administrative processes. Autonomy may offer several longer-term benefits too, including reducing the “brain drain” of university students currently choosing to train (and stay) abroad.

6. **Broad R&D Support.** Advanced software skills are often only developed at institutions and companies that conduct research in computing. In addition to the research activities proposed at the Centers of Excellence mentioned above, create incentives for R&D investment generally, including at all public universities, technology parks (including new ICT research initiatives at the ACCIMT⁹), private educational institutions, and corporate R&D groups. Especially desirable would be government encouragement (e.g., through tax write-offs) of corporate sponsorship of university R&D and joint industry-academia research projects. Since private industry is currently leading the way in ICT innovation in Sri Lanka, close cooperation between academic and industry research groups would be particularly beneficial to advanced ICT education.

Mainstream ICT Education At All Levels

1. **ICT Training for All University Disciplines.** Implement a pilot training program on effective use of ICT in all disciplines in tertiary education. Involvement of faculty outside of Computer Science departments is critical. Graduates in engineering, chemistry, health care, education, accounting, and so on, must be educated in IT to take part in the knowledge economy. Furthermore, innovative ideas in the software industry often come from subject-matter experts who invent better ways to use computers.
2. **Computer Literacy and E-Learning for Primary and Secondary Schools.** Implement a pilot program in computer literacy in primary and secondary education and e-learning programs for teacher training. These programs could be coordinated with measures to improve connectivity and affordable access. Computer literacy is also a prerequisite to improved primary and secondary education via distance learning offerings and other ICT-enabled educational programs; additional pilots in the area of distance learning should be supported in parallel. Build on or scale up World Bank and International Development Bank assistance already targeting these areas.

ICT Training For Working Professionals

1. **Incentives for Corporate ICT & Language Training.** Consider tax credits for companies who invest in software training and foreign language training for their employees.
2. **Strategic Uses of ICT Training for Government Managers.** Create pilot training programs in ICT for management at all levels in government. Training should include not only the basics of computer literacy, but also strategic uses of ICT, ICT procurement, project management and project failure, and high-tech entrepreneurship. The goal of this training is

⁹ Arthur C. Clarke Institute for Modern Technologies

three-fold: 1) inform decision makers so that they can have more effective involvement in the process of government automation; 2) develop an appreciation within the government of the nature of the software industry; and 3) enable leaders to represent Sri Lanka's technology sector both domestically and abroad.

3. **Computer Literacy Programs for Civil Servants.** Create pilot computer literacy training programs for all civil servants. Government efficiency will benefit substantially if more civil servants gain an understanding and higher comfort level about what information systems can and can't do, and how to be effective participants in government automation and e-government projects.

English

1. **Incentives for English Education.** Support English and other foreign-language education at all education levels with performance-based increases in faculty salaries, tax incentives, tuition loans, etc. Government certification of these institutions should be based on performance of graduates. A national English proficiency exam might also contribute to establishing effective standards.
2. **English Proficiency, ICT Literacy and Culture.** Initiate TV and radio programs to raise English proficiency throughout the country. Also create national campaign to raise awareness of ICT and its role in economic development. Offer computer literacy courses via TV.

Other HR-Related Actions

1. **Visa Program for Foreign ICT Professionals.** Discussions have occurred recently within both government and industry groups regarding the idea of offering multi-year visas to foreign ICT professionals as individuals, in a manner similar to the US H1B visa program. Such an idea has benefits for the industry and warrants implementation in the near-term. Foreign professionals, from India and elsewhere, will increase the capacity of the ICT industry as well as offer knowledge transfer opportunities to Sri Lankan software professionals.
2. **ICT Educational Advisory Council.** Create an ICT Education Advisory Council to inform policy and guide government programs. Include software industry leaders as well as government and private stakeholders.

Stimulation and Promotion of the Software Industry and ICT-Enabled Services

The Sri Lankan software industry is small but promising. It has been making steady progress for years without significant government support. Still, government efforts to stimulate the domestic demand for software would be particularly worthwhile at this time, in order to propel forward an industry which will contribute to post-war revitalization of the entire economy. Even very small programs could make a big difference in the overall success of the existing software companies and the others to follow.

While the rationale cannot be elaborated fully in this document, it is important to note that Sri Lankan software companies are at a significant disadvantage to their competitors abroad because of their lack of critical mass, supportive habitat firms, or large local customers.¹⁰ It is the last need that is most compelling. While many Sri Lankan software companies have the competence to undertake large, complex projects for government and local companies, they often encounter significant difficulties in winning these types of business. Having their product installed at a satisfied reference site in Sri Lanka is a tremendous advantage for companies trying to sell their technology abroad. (Millennium Information Technologies is a well-known example of a company that has been able to win large projects abroad, in part because of its success with a large local reference site, the Colombo Stock Exchange.) Thus, offered below, are action items to support the software industry and ICT-enabled services.

Stimulate Domestic Demand for Software

1. **Amelioration of Government Procurement Practices.** Reform government procurement practices so that local software companies can compete for government tenders on a level playing field. Ensure that local bidders are not arbitrarily excluded from bidding on the basis of size or years of experience; instead, devise procurement policies that focus on the capabilities of bidders and the actual demands of the job. Allow small local providers to partner or create consortia (with domestic or foreign firms) for the purpose of offering joint bids on bigger projects. Also, encourage foreign vendors who do get contracts to work with local providers of products and services. Bring IT expertise into the government, e.g., by establishing a CIO office with adequate authority to run systems outsourcing and manage procurement. Include private sector experts in the tender evaluation process. Audit procurement process to ensure fairness – perhaps an independent ombudsman to hear private sector complaints.
2. **Government ICT Projects for Industry Stimulation.** Target some government automation and e-government projects to stimulate growth of the domestic software industry. Even a half-dozen projects will make a big impact on the domestic software market in the short term. Many planned government automation projects (back-office automation, websites, etc.) are well within the capabilities of even the smaller local firms. Besides stimulation of the software industry, projects should be selected based on impact on the citizens and the economy, cost savings in government operations (ROI), and chance of success. (Implement low-risk projects first, to build credibility and experience.) Some of the projects that have been suggested by the industry itself as prime areas for government automation and e-government include:
 - National ID database (a prerequisite to financial reform: pensions, income tax, ...)
 - Delivery of services to Sri Lankans abroad
 - International business promotion (e.g., visa applications, hospitality industry, ...)
 - Land registration
 - Port: EDI, customs processing

¹⁰ For a more complete discussion of the impact of the domestic market on software startups, see Barr, Tessler and Miller, *Software Entrepreneurism in Korea*, Stanford University, December, 1999. www.aldo.com/papers/FinalReport.pdf.

- Project management, e.g. of NGO-funded projects
 - Judicial records management
 - Accounting systems for budgeting, cost control and reporting
 - E-procurement
 - Portals for services such as on-line forms completion and submission
3. **Incentives for Corporate ICT Investment.** Create incentives for private sector investment in new information systems. These investments would not only stimulate the domestic software industry, but would also improve the efficiency and global competitiveness of firms in other industrial sectors. Create specific incentives for SME's to encourage broad adoption of basic ICT and concomitant employee training, as part of overall economic development goals. Tailor other incentives for large companies to upgrade and modernize systems to enhance global competitiveness, and to provide encouragement for additional revenue-generating ICT-related activities such as "productizing" domain expertise embodied in corporate systems.

Create support programs that encourage industry associations in all sectors to develop computerized solutions to shared problems; e.g. electronic marketplaces, specialized industry databases, and other joint resources to raise their collective competitiveness in the global marketplace.

4. **National Resource Sharing.** Establish a national PC support hot line for any citizen or civil servant to get answers to basic computing and Internet questions. This concept might be creatively implemented as a Youth Corps, to offer another avenue for unemployed new graduates to enter into the ICT industry. Also organize private sector PC support and training firms to help government employees and citizens with basic computer-use issues. Regional IT support centers might be similarly organized around the country.

Create a Business-Friendly Policy Environment

1. **Workshops for Government Leaders.** Conduct high-level workshops for government officials and Members of Parliament to enable them to be leaders in introducing ICT in their organizations, and in creating an enabling environment for the growth of ICT-related companies. These workshops would also be appropriate venues for discussing with government officials and leaders of Sri Lanka's financial sector the progress and potential of the software and ICT-enabled services sectors.
2. **Software Industry Inputs to Policy Planning.** Bring software industry leaders into the government policy-making process at the highest level, e.g., through an Advisory Board. Include both large and small firms. Include software publishers, software services firms, and ICT-enabled services.
3. **ICT-Enabling Laws.** Implement mechanisms for fast-tracking the enabling laws and programs for the ICT industry, so that Sri Lanka can take advantage of identified opportunities in a timely fashion. Consider making English the legal language for ICT-related laws, in order to facilitate the passing of important legislation. Consider establishing some kind of exemptions or Malaysia-like "zones" for software and ICT-enabled services that will temporarily insulate these industries from excessive regulation.

4. **Regulatory Reform for Venture Capital.** Reform venture capital financing laws, import/export controls and other policies that inhibit the availability of high-risk capital. With the recent announcement of the abolition of the capital gains tax, the GoSL has a timely opportunity to jumpstart its venture capital industry. The VC community needs solid assurances that the capital gains tax abolition will apply to them. Only then can they begin to offer adequate support to Sri Lankan software startups. Software publishing is a market-share-driven business. Since all competitors have roughly the same product development costs, their success ultimately depends on quickly capturing the bulk of the market, which is quite expensive. Sri Lankan software product companies need access to venture capital in order to compete for global market-share with their peers worldwide.

Implement policy reforms in exchange controls in the near-term. Foreign venture capitalists, for example those in the US, who agree to invest in Sri Lankan software firms, require that a US registered holding company be set up and existing stockholders of the local company swap shares with the US company. The current Central Bank approval process is out of date and can no longer be responsive to the needs of players in the fast-paced global software industry. Lengthy processing delays severely limit both software company growth and local VC exit opportunities.

Work with representatives from the venture capital community to implement appropriate regulatory modernization.¹¹ In addition, use this forum to create plans and proposals for joint public-private-donor high-risk venture funds that could be used to invest in ICT companies with global promise.

5. **Labor Law Revisions.** Undertake a review of labor laws, with the specific purpose of determining how current laws may be revised to support the activities of the ICT industry. Examine particularly retention rules, pensions, and other issues to ensure that ICT companies can maintain a flexible, competitive workforce at all times. In ICT-enabled clerical services, for example, flexibility is required in terms of shift hours, and demands for different language skills or other knowledge may vary considerably as new clients come and go. In software services, project-based staffing is typical, and different skills may be required for each new project. Workforce mobility, the ability of workers to move freely among employers, has been cited as a major advantage of Silicon Valley since this practice shortens the learning curve across all companies in the region.¹²
6. **Offshore Tender Assistance.** Institute appropriate policies and encourage local financial institutions to assist small domestic software services companies in obtaining lines of credit, guarantees or other help for making offshore tenders, especially in emerging markets.

¹¹ Key Reforms for the Growth of the Venture Capital Industry, A Proposal for the Budget 2002, Venture Capital Association, January 2002

¹² *The Silicon Valley Habitat*. In Lee, Miller Hancock, and Rowen, *The Silicon Valley Edge*, Stanford University Press, November 2000.

Help Software Exporters Establish Awareness Abroad of Sri Lanka as Technology Producer

1. **Promotion of Software Industry Abroad.** Partner with industry associations, EDB, BOI, and foreign missions to hire local marketing professionals experienced in specific industries. (e.g. a Swedish expert on selling software to European telecommunications companies or an expert from Dubai on IT in financial services in the Middle East.) These marketing professionals would staff small trade missions housed in Sri Lankan embassies in targeted markets to facilitate the efforts of Sri Lankan firms in those countries. Also hire marketing firms in targeted markets (Middle East, Scandinavia, US, and elsewhere) to begin establishing a brand awareness of Sri Lanka as a technology center for software services and ICT-enabled clerical services. Finally, sponsor a study to analyze current market and future trends to better target software and ICT-enabled services segments for which Sri Lanka would have a competitive advantage in two to three years.
2. **Communication with the Diaspora.** In key markets abroad, engage Sri Lankan expatriates in seminars, online discussion groups, distance learning projects, and other activities aimed at creating new business opportunities for Sri Lankan software products and services.

Create a Competitive Environment for Attracting & Supporting ICT-Related Services Companies

1. **Effective Telecommunications Infrastructure.** Ensure that high-quality telecommunications bandwidth will be available to software and ICT-related businesses at a regionally competitive prices as soon as possible. Processing of license applications and private proposals for Colombo area infrastructure improvements should not be delayed while alternatives for a national network build-out are debated. Plans for e-government, computer literacy training, distance learning, and software industry stimulation all depend to a significant degree on the availability of affordable, reliable, high-bandwidth connections.
2. **Soft Infrastructure Development.** Sponsor a study to identify priority areas of soft infrastructure¹³, such as Internet-based data centers, electronic trading hubs, and payment gateways, for investment and targeted incentives. The first phase should concentrate on building the basic systems layers required to implement any ICT-enabled services.
3. **Legislation of Importance to MNE's.** Key pieces of legislation, e.g., IP protection, computer crime, etc., are currently tied up in the translation process. Free up and pass these pending items and fast-track remaining ICT-related legislation in order to make MNE's comfortable about outsourcing software services to Sri Lanka. The software and ICT-enabled services industries are fast moving. Passing the various policies and regulations that are required to be competitive in the call center business, for instance, cannot easily wait another year. Other countries will have, by then, taken the best positions in the prime markets.
4. **One-Stop Shop for MNE's.** To expedite investment, create an effective agency to provide a one-stop shop to for MNE's who are considering locating operations in Sri Lanka. (Take into account the impact on local players, including small startups, when giving incentives to the first MNE's). MNE's create jobs, stimulate demand through extensive marketing, and train

¹³ ICT Development Roadmap for Sri Lanka, May 9, 2002

local employees in cutting-edge skills. Look to Ireland as an example of a country which has actively courted MNE's for the express purpose of exposing Irish technical professionals to globally competitive technologies, in order to develop expertise, and then start their own software companies.

5. **Showcase Technology Park.** Develop one technology park as a showcase for local companies and for MNE's who might consider setting up shop here. This concept park might include buildings, roads, telecommunications, nearby housing, access from airport, quality schools and healthcare, etc. Perhaps bring in a consultant from India or Singapore to specify requirements, or to undertake a joint venture. Incentives to early tenants might include rent reductions, attractive telecommunications package, and so on.

Final Thoughts

The window of opportunity is short. The number of countries trying to promote their high-tech exports and their ICT-enabled business services is growing fast. The Sri Lankan software industry is small but dynamic. Government can help right away by reducing bureaucratic and regulatory barriers. Joining with international partners to fund targeted stimulation efforts will offer additional benefits. The most important action for the long-term development of the industry, however, will be for the government to become a sophisticated user of ICT, as well as an enthusiastic promoter of Sri Lankan technology in every public forum.