

Chapter 6 Managing the Transition

Moving Forward - at Internet Speed



It is important to appreciate that the plan will not be *implemented* overnight and that its implementation will not be a simple task.

6. Managing the Transition

Ideas into Action

The National ICT Strategy provides Trinidad and Tobago with a series of logical, and integrated, initiatives. These initiatives will assist in developing new skills and talents, creating economic growth and prosperity, increasing social well-being and cohesion, and positioning the country for ongoing success in the global information society.

This is an ambitious Strategy – with many components. It is important to appreciate that the plan will not be implemented overnight and that its implementation will not be a simple task. There will be many challenges and hurdles to overcome – some expected, some not. As with any strategy, the real measure of success will be how effectively it is moved off of the drawing board and into effect – and how well the anticipated benefits begin to materialise.

The National ICT Strategy is a multi-year, multi-faceted, multi-stakeholder initiative. It is undoubtedly complex, but there are enough examples of successful ICT initiatives in other jurisdictions to suggest that is entirely achievable. The following areas are seen as the keys to success in moving from Ideas to Action:

- Sustained executive leadership at the highest level
- Clear accountabilities, roles, responsibilities and reporting
- Active involvement and communication amongst all key stakeholders
- Ensuring the various initiatives remain integrated and work towards a common vision
- Approaching implementation in a structured, phased manner to make best use of resources, skills and time
- Using technology wisely, not extravagantly
- Ensuring programme sustainability
- Strong project management skills
- Measuring progress and reporting results
- Regular, honest and open communications
- Risk Management
- Change Management



Moving Forward

Programmes and Projects

The National ICT Strategy describes a series of programmes and projects that will achieve all aspects of the National ICT Vision. In order to move beyond the planning phase, and successfully implement these initiatives, it is important to identify the tasks that need to be undertaken first, the critical dependencies between the different projects and the resources that are required to support each phase of implementation.

The National ICT agenda consists of 14 core programmes, each encompassing a number of projects. Reflective of the integrated nature of the Plan, certain projects help fulfill the objectives of multiple programmes. Implementation of the Plan will begin in 2003/2004 with the roll-out of "Pathfinder Projects" (described below). The objective of these Pathfinder Projects is to establish the technical, organisational, and legislative components upon which the broader ICT agenda can be built. With the "foundation architecture" in place, the roll-out of the broader NICT Plan can commence in 2004/2005, toward the goal of accomplishing most NICT Plan objectives by 2007/2008.

A preliminary list of National ICT programmes and projects, with their estimated funding requirements, objectives, and implementation timing, is shown opposite. Over the next several years, it is anticipated that the implementation of these 14 programmes will require approximately US\$82 million in funding. At this point in the National ICT planning process, these figures represent only approximate estimates that are based on similar ICT initiatives being developed in other countries. At this time, they should be used only as placeholders for planning purposes – in the next phase, funding estimates will be refined as more detailed project plans are developed.

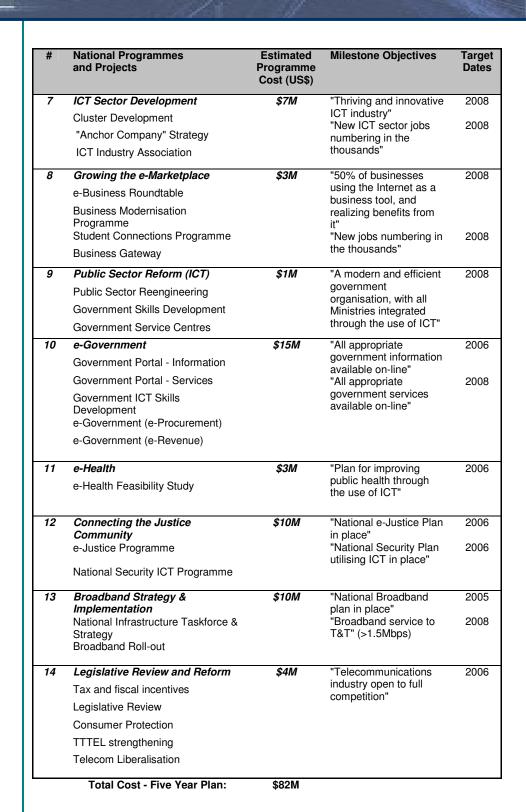
It is anticipated that the implementation of these 14 programmes will require approximately US\$82 million in funding.

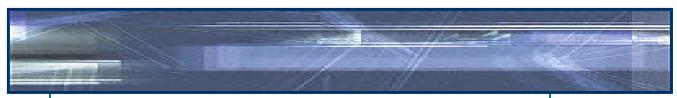


A table featuring summary information on proposed programmes and projects of the National ICT Plan is shown below. Appendix D provides additional information on these programmes and projects.

National ICT Plan: Proposed Programmes, Costs and Timing

#	National Programmes and Projects	Estimated Programme Cost (US\$)	Milestone Objectives	Target Dates
1	ICT Governance NICT Governance Structure	\$10M	"Transition Team in place with responsibility for ICT foundation projects"	2004
	National Innovation Council		"National ICT Governance Structure in place with responsibility for achievement of all ICT goals"	2005
2	Promotion and Awareness NICT Promotion and Awareness	\$5M	"All citizens aware of and enthusiastic about the ICT plan and its benefits"	2008
3	Community Connections	\$3M	"50% of homes with Internet access"	2008
	Community Connection Programme		"50% of the population as regular Internet users"	2008
	Youth Computer Corps		"Public access available to all citizens" (within 15 minutes travel)	2008
4	Knowledge, Innovation and Development (KID)	\$3M	"All schools connected via high- speed Internet service"	2008
	SchoolNet		"All teachers received ICT- related training"	2006
	Computers for Schools			
	Teacher Training			
5	National Archives and LibraryNet	\$2M	"All libraries connected via high- speed Internet service" "All librarians received ICT- related training"	2008 2008
	LibraryNet			2000
	Electronic Heritage Project Historical Connections		-	
6	ICT Human Capital Development SkillNet	\$6M	"More than 10,000 ICT professionals employed in the country"	2008
	Private Sector Training			
	Student Connections Programme			
	IT Professionals and Senior Management Training Programme			





Pathfinder Projects

The first year of the National ICT Plan is critical to its overall success. A number of "Pathfinder Projects" have been selected for their ability to accelerate momentum and create a foundation for subsequent programmes and projects. The recommended Pathfinder Projects are listed below; along with brief descriptions of the initiatives.

Description of Pathfinder Projects

ICT Governance

Effective governance of Trinidad and Tobago's national ICT agenda is seen as *the* most critical element in ensuring success. The governance model required to support a national agenda of this scale must be designed in a way where roles, responsibilities and accountabilities are clear and decision-making is both well-informed and prompt. Designing effective governance arrangements for T&T's ICT agenda will be particularly challenging due to the multi-stakeholder and multi-project nature of the programme. In the near-term, it is recommended that a Transition Team be created to launch the Pathfinder Projects and to design the longer-term governance requirements in greater detail.

Effective governance of Trinidad and Tobago's national ICT agenda is seen as the most critical element in ensuring success.

Community Connection and SchoolNet

One of key statements from the NICT Vision is that all citizens will have access to the Internet. The Community Connection and SchoolNet programmes are the vehicles that will ultimately deliver Internet connectivity to every corner of Trinidad and Tobago. However, in the first year of the Plan, more modest goals must be pursued. The creation of a pilot programme, demonstrating the usefulness of Community Access Centres, will provide citizens with visible early examples of the benefits of ICT. The pilot will also help NICT planners to develop the Community Connection model – confirming the process, technology, and management required to implement the sites.

In addition to the connectivity program that will seek to link community centres and schools, the establishment of an ICT scholarship programme, which will annually reward a number of students with scholarships based on identified needs.



Broadband Strategy

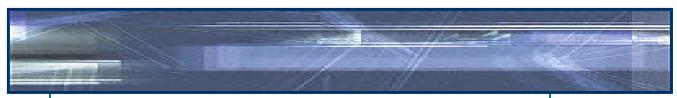
The purpose of the National Infrastructure Taskforce is to ensure that there is a plan for addressing T&T s data transmission bandwidth requirements – both now, and in the future. At present, the Internet can be accessed via dial-up or, in certain areas, high-speed connections. Also, the recently approved Government Backbone project may provide the country with additional bandwidth resources. However, mechanisms for monitoring and responding to greater bandwidth requirements must be developed. With the roll-out of the National ICT Plan, Internet usage is expected to increase dramatically, straining existing bandwidth resources. The creation of a National Broadband Strategy will ensure that there are mechanisms in place to ensure these resources continuously exceed demand.

e-Commerce/ e-Business Development

A significant amount of effort will be required to grow the e-Marketplace; however, the success of Trinidad and Tobago s entire ICT agenda is dependent upon the widespread adoption and usage of ICT by the business community. Over the next twelve months, a number of series of small initiatives will get underway to start the acceleration of the e-Economy. An ICT Industry Association will be established to design an ICT Sector development framework and examine the opportunities for cluster development. The e-Business Roundtable will be formed to assist both the ICT Industry Association and guide the overall ICT effort. The Government and private sector will assess the potential for attracting an ICT Anchor Company and the development of ICT related training programmes for SMEs will be developed.

e-Government

The first-year development of the e-Government agenda will serve many purposes. By making useful information and services available via a Government Portal, citizens will have greater motivation to get online. This will help to build a critical mass of Internet users that is necessary in order to make other electronic communications viable. Similarly, by putting certain business-related services online, such as e-procurement and e-customs, industry will finally have sufficient reason to invest in ICT. Giving people sufficient reason to be online, combined with other Pathfinder programs (e.g., promotion and awareness, community access) will undoubtedly have a large impact on the type and volume of Internet usage. Government s role as a catalyst in the development of an e-society cannot be overstated.



Legislative Review

As has been previously identified, much legal and policy change will be required as part of the evolution toward a knowledge-based economy. Deregulation of the telecommunications industry must proceed, electronic information handling rules must be clarified, and citizen privacy and security must be ensured. Recognising that legislative change can be a long and complicated process, it is imperative that work begin immediately on the identification of legislative changes required as a result of the NICT Plan. Once these have been identified and prioritised, the necessary steps may be taken toward reforming legal statutes.

Promotion and Awareness

The overarching goal of the National ICT Strategy is that it becomes an initiative not of government, but of the people. While government is to be a catalyst in beginning the implementation of the plan, ultimately it can only be sustainable if it is embraced and driven by the broader community. For this reason, a national promotion and awareness campaign, educating people on why and how they can use ICT, is so important. This project will utilise the highest quality public communications resources to ensure that the important messages behind the National ICT Plan actually reach their intended audiences. By the end of year one of the Plan, everyone in Trinidad and Tobago will know what ICT is, how it can benefit them, and what they need to do to realise those benefits.

The full scope and detail of the Pathfinder Projects will need to be developed in more detail by the Transition Team before work can proceed. Plans must be developed, funding identified, and key resources acquired in order to get this critical first year of the National Strategy underway. This underscores the importance of ensuring the Transition Team is up and running as quickly as possible, for all other NICT initiatives are dependent on the work of this body.



#	Pathfinder Programmes and Projects	Estimated Cost (US\$)	Pathfinder Objectives
1	ICT Governance NICT Governance Programme Establish Transition Team Develop NICT Governance Structure Integrate NICT with existing plans Develop detailed NICT Plans	\$500k	Transition Team in place with responsibility for ICT foundation projects National ICT Governance Structure in place with responsibility for achievement of all ICT goals Integrated project plans prepared, and project resources identified
2	Community Access Connecting Communities Programme Connecting Communities Programme- Phase	\$400k	Connecting Communities Pilot Programme implemented in 6-8 sites throughout Trinidad and Tobago
3	SchoolNet Knowledge, Innovation, Development Establish ICT Scholarship Programme	\$150k	Annual scholarships awarded for study at internationally-recognised ICT institution
4	Broadband Strategy and Implementation National Broadband Taskforce Develop Broadband Strategy	\$120k	Current bandwidth needs identified, mechanisms for accessing additional access as needed, and plan for implementing
5	e-Commerce/e-Business Development e-Business Roundtable e-Business Development	\$400k	National e-Business Roundtable created Plan in place for development of the e-Economy Associations created for the study of industry-specific ICT solutions
6	e-Government Government Portal – Information Initiative Government Portal – Phase 1	1.1M	Government portal (Phase 1) created, featuring common look and feel, and basic information and services
7	Legislative Review and Reform Legislative Review Initiate Legislative Review	120k	Legislative changes related to ICT identified Plan for implementing changes created Legislative and policy recommendations implemented
8	Promotion and Awareness NICT Promotion and Awareness Initiate Awareness Campaign OTAL COST -1 YEAR "PATHFINDER" PLA	400k	National ICT Promotion and Awareness campaign launched NICT Strategy has national profile and universal awareness

Procurement

Designing and implementing Trinidad and Tobago s ICT agenda will require significant human, technical and financial resources. The initial funding estimate suggests an amount of approximately US\$82M will be required to support implementation. Implementation on this scale will require the procurement of a very large amount of goods and services over a period of several years.

Current procurement procedures can be lengthy, and may not be well suited to support an initiative of this magnitude and complexity.

The project Working Groups identified procurement delays as a potentially serious risk to project success. Current procurement procedures can be lengthy, and may not be well suited to support an initiative of this magnitude and complexity. It is recommended that the Transition Team work with the Central Tenders Board to identify streamlined, but robust, procurement vehicles that will better support the



requirements of the ICT programme and still work within acceptable procurement practices.

Governance

Transition Team

Effectively managing the transition to a knowledge-based society is seen as the most critical, and potentially the most difficult, aspect of moving forward – more so than the technical and financial elements of the agenda.

Strong, clear but flexible governance arrangements will need to be established to ensure that the ICT programmes move forward effectively, efficiently and in a highly integrated manner. There are many tasks to be undertaken and there will be roles for all stakeholders. Delegation of tasks will obviously be essential but this must be supported by clear accountabilities and responsibilities to ensure that well-informed and timely decisions facilitate a smooth, and balanced implementation programme.

Detailed governance arrangements are currently under discussion. In the near-term, a Transition Team will be established at the Ministry of Public Administration and Information to oversee and direct the early stages of design and implementation of the ICT agenda. This team will play a major role in establishing initial governance arrangements, staffing key appointments, introducing new stakeholders into the projects, designing ICT procurement arrangements and launching an initial set of Pathfinder Projects . The Transition Team may need to expand once the agenda moves into full gear, however a flexible structure that brings in expertise as it is required is most probably the best way to manage the programme and to make best use of scarce resources.

Brief descriptions of the key roles and skills for the recommended functions of the Transition Team are shown below.

In the nearterm, a Transition Team will be established at the Ministry of Public Administration and Information.



(Longer-term governance structure and arrangements are currently under discussion)

Permanent Secretary – Information and Communication Technology

This will be a dedicated, full-time position for a Permanent Secretary. Reporting to Cabinet, through the Minister of Public Administration and Information, the Permanent Secretary will be responsible for all elements of the ICT agenda. In the early stages, a key element of the Permanent Secretary s role will be the liberalisation of the telecommunications sector and the engagement of the major stakeholders as active partners in the country s connectivity agenda. Working knowledge of ICT, a thorough understanding of the National ICT Vision, involvement in telecommunications liberalisation and the ability to work collaboratively to bring diverse stakeholders towards a common purpose are seen as pre-requisites for this appointment.

As the ICT agenda advances, and this position matures, it may be advisable to move the title to National Information Officer or Chief Information Officer. This title may better reflect the role as one of strategic information management, rather than being limited solely to



ICT. The role and title would then dovetail nicely with other similar positions such as Chief Personnel Officer and the Director of Personal Administration.

Legal Division

The Ministry of Public Administration and Information s Legal Division will need to work closely with the National ICT Office. This will be particularly important during the first year or two of the ICT programme as the telecommunications market is opened up to full competition. In addition to providing support and advice to the Permanent Secretary with regards to telecom liberalisation, the Legal Division will also have to create an inter-Ministerial working group for the review and amendment of legislation and policy framework that will be needed to support increased levels of e-Commerce and e-Government.

Communications Support

Effective communication will be a critical component in advancing the ICT programme. A small communication team will be assembled to provide support to the National ICT Office.

Executive Director - ICT

Reporting directly to the Permanent Secretary, the Executive Director - ICT will hold a key appointment and will be responsible for the overall design and integration of all elements of the ICT Plan. Ensuring coordination and managing the critical path of the numerous initiatives will be a full time task and will require the Executive Director to have a detailed understanding of all aspects of ICT, significant experience in large-scale transformational projects and the ability to work collaboratively with a diverse stakeholder group. An effective communicator and leader, this person will need to be able to work at a senior executive level as well as at a project level. It is likely that the Executive Director would be a member of the multi-sectoral e-Business Roundtable that will guide and challenge the evolution of Trinidad and Tobago s ICT agenda. The Executive Director will also closely liaise with the Ministry s Programme Management Section regarding financial management and funding issues.

ICT Policy and Effectiveness

The ICT Policy and Effectiveness Group will examine the ICT-specific policies necessary to enable and enforce the national connectivity agenda. Working closely with MPAI s Legal Division, the group will focus on the major policy areas of the ICT

plan such as telecommunications, economy, life services (health, education, etc.) and community services (social development, community access, justice, national security, etc.). In addition to designing and implementing appropriate policy changes, the Director will also be responsible for developing a performance management schedule to monitor and report of the progress of T&T s ICT programme. This will be a most important role and will require a practitioner experienced in a wide range of policy matters, preferably with expertise in e-Legislation.

ICT Planning and Operations

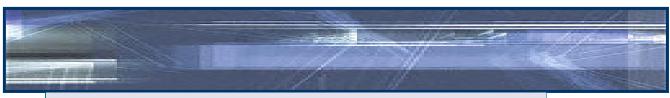
The ICT Planning and Operations Group will be responsible for the design and execution of the numerous programmes and projects that are to be implemented as part of T&T s connectivity agenda. This function will require a solid understanding of ICT, outstanding project management skills and the ability to work effectively with a broad range of stakeholders. The group will have direct responsibility for the successful design and execution of all ICT initiatives that fall under the Ministry of Public Administration and Information and oversight and integration responsibility for those programmes that are the responsibility of other ministries (trade, health, education, social sector, etc.).

ICT Secretariat

The Executive Director and the ICT Planning and Operations Group will be supported by a small number of staff who will assist with project management, procurement and administrative tasks.

External Assistance

The design and implementation of Trinidad and Tobago s ICT agenda is a major undertaking. Its architects and implementers must be of the highest quality if it is to achieve full success and deliver maximum benefits. It is unlikely that all of these skills will be found in government, or even within the country. If may be necessary to bring in consultants or specialist assistance from abroad. If external assistance is required, it is recommended that these skills be used efficiently and in a way that maximises skills transfer to local professionals. This may require a shadowing programme to be put in place for local staff to work alongside external consultants to accelerate learning and shorten the time required for expensive assistance.



Managing Risk

All projects have elements of risks that, if not managed properly, can seriously jeopardise project success. In order to manage risk it is important to have a clear understanding of what risk is. Risk is the impact of uncertainty or the inevitability that even the best laid plans can be confounded by an unexpected event, false assumptions or human failure. In other words, risk management is about identifying what could go wrong as a result of internal or external events, and planning appropriate actions to prevent or minimise the impact. Experience has shown that risk cannot be totally eliminated from any initiative; however, if managed proactively it can be minimised and in some cases even avoided.

A preliminary risk assessment was conducted using input from Working Group members. The objectives of this assessment were to:

- Identify and describe risks associated with the development and implementation of the National ICT Plan;
- Assess the probability and impact of each risk to determine relative priority and needs; and,
- Develop mitigating actions to help minimise the adverse effects of risk on the NICT Plan.

NICT Plan Implementation: Key Risks and Mitigation Strategies

The key risks to the success of the NICT Plan, and corresponding mitigation strategies, are described below. Each was identified as a high priority issue that needs to be actively managed. Appendix E provides a full listing of project risks and mitigating strategies.

"Procurement process that is inadequate for NICT fails to deliver key resources in timely fashion"

Actions recommended include the creation and utilisation of fast-track procurement and hiring processes for the NICT Plan. Examples of such processes currently exist within Government. Despite using such mechanisms, it was recommended that realistic timeline planning be used as much as possible.

"Lack of project coordination and integration within Government, and between Government and stakeholders, results in project failure" A preliminary risk assessment was conducted using input from Working Group members.

The establishment of an overarching management body to be responsible for the funding and delivery of NICT programmes and projects was the key recommendation. Toward this goal, there are thought to be some opportunities to build upon existing arrangements involving the Ministries of Planning, Finance and Public Administration and Information. Additionally, as part of pre-planning process for budgets, Ministries and Departments will be encouraged to identify ICT-related projects, using criteria identified by the NICT management body. In general, the creation of robust governance structures for ICT is thought to be the most effective way to prevent project failure.

"Appropriate human resources required for Plan implementation are not available"

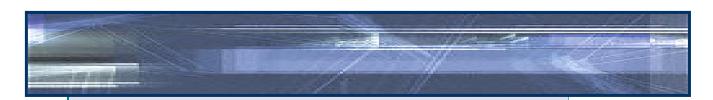
The skill sets associated with Strategy implementation must be identified before resourcing plans can be developed. If resources with these skills cannot be found within government, it will be necessary to find ways to attract, develop and retain appropriate persons. Skilled individuals who are very much in demand will need to be appropriately compensated. Acquiring resources from outside the country must not be overlooked, especially when seeking specialised skills.

"Lack of public buy-in and support for NICT Plan limits it to a 'madeby-government' initiative"

A stakeholder analysis and communication plan must be developed that identifies the unique information needs of different segments of the population (e.g., seniors, businesspeople, children, etc.). Using all media, public awareness campaigns must enthusiastically deliver the ICT message. The plan will highlight and celebrate achievements. It will also provide responsive feedback mechanisms to ensure that communication flows both ways. Various elements of the plan must be given to the private sector and local communities for design and implementation. Wide ownership of the plan must be clearly demonstrated and communicated.

"Loss of political support for NICT results in project delays or stoppage"

In order for the NICT Strategy to be successful, it is important that it be driven by grassroots pull . The demands of citizens, groups and businesses for greater ICT development must give the project sufficient strength to overcome political agendas or inertia. In the early stages, this will be achieved by ensuring the public is aware of the real and tangible benefits produced by the project through an effective communication campaign.



Monitoring Progress

Monitoring progress and performance will be of great importance as the national connectivity agenda moves from strategy into reality. Monitoring and reporting is important for a number of reasons, including:

- Demonstrating results, building confidence and accelerating ICT take-up
- Encouraging urgency and momentum in those responsible for programme delivery
- Monitoring the country s progress in terms of global connectivity rankings
- Helping promote Trinidad and Tobago s connectivity agenda on the international stage
- Providing increased visibility of projects that are in trouble
- Tracking financial investment against outcomes
- Assessing individual achievements

As plans for implementing the recommendations of the National ICT Strategy are refined, care must be given to ensuring that the results of the initiative are properly measured and reported on. In recent years, Trinidad and Tobago has actually slipped backward in terms of readiness for the networked world, its ranking declining in relation to countries where ICT planning was more developed. With the release of the National Strategy, T&T has the opportunity to reverse this trend.

There are many approaches that can be used to identify national progress in ICT development. A number of high-profile organisations, including the Organisation for Economic Co-operation and Development (OECD) and the World Economic Forum, regularly publish tools for measuring national ICT development, as well as the results themselves. Going forward, monitoring efforts should take advantage of the work of these bodies, and seek to measure T&T s progress using internationally recognised tools. Measures commonly used by these bodies include:

- Number of Internet subscribers
- Broadband penetration rates
- Internet access and use by enterprises by size and industry
- ICT sector contribution to employment growth
- Etc.

Care must be given to ensuring that the results of the initiative are properly measured and reported on.

Additionally, Harvard University s e-Readiness Assessment methodology has already been successfully applied in Trinidad and Tobago, generating a baseline for comparing future results. It is recommended that a formal measurement exercise using this approach

At an operational level, project and performance measurement will be carried out by experienced project managers. As part of the ICT governance structure, it is recommended that professional programme management capabilities be utilised by the Planning and Operations Office. It is further recommended that the Policy and Effectiveness Office be responsible for designing a performance management framework for monitoring and measuring progress of the ICT agenda. This feedback will be used to continuously refine and improve programme implementation efforts, ensuring that the ICT agenda is highly responsive to the needs of Trinidad and Tobago and that policy targets are being achieved.

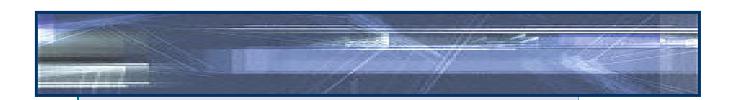
The First Step

be conducted annually.

As this report clearly outlines, the design and implementation of the ICT programmes and projects will be a major undertaking. It will consist of numerous interconnected components, involve many stakeholders and carry considerable risk. As with any large undertaking, it will be necessary to break the Strategy down into manageable pieces, plan effectively, implement diligently, communicate honestly, manage expectations and monitor progress.

Once the Strategy has been approved for implementation, the immediate next steps are seen as:

- Establishing the Transition Team and identifying personnel for key appointments
- Ramping up communication and awareness efforts
- Engaging key stakeholders
- Clarifying funding arrangements, internally and with IDB
- Designing and launching the Pathfinder Projects



Acknowledgements

Literally hundreds of people have been involved in the development of this plan. A list of participants is shown at Appendix F – apologies to anyone who participated but whose name does not appear for some reason.

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Everyone's input has been welcomed, listened to and incorporated into the design of the Strategy wherever possible. There will also be many comments, observations and recommendations that have not made their way into this final report, but it is important to understand that this input has not been lost. The NICT Planning Secretariat has assembled a large file of working documents that will continue to be used as the ICT agenda moves from strategy into design and implementation. Many of the suggestions and ideas that do not feature in this document will undoubtedly be used in subsequent stages of the initiative.

Special acknowledgements must go to the members of the five Working Groups and the NICT Secretariat. Their input, precious time and devotion to the country's ICT agenda has been invaluable. They are the architects of this Strategy and deserve considerable recognition for their contribution.

Thanks are also extended to officials of the Government of Canada, who provided valuable guidance and direction at various stages of the project, and to members of Public Sector Transformation Group (PSTG Consulting) who helped steer the development of the Strategy from concept to conclusion – their knowledge, commitment, energy, and enthusiasm is greatly appreciated.

This has truly been a team effort. The result is a National ICT Strategy that paves the way to an exciting, prosperous and connected future for everyone in Trinidad and Tobago.

As Prime Minister Manning said in his speech to launch the initiative on May 2^{nd} , "let us now move forward....at Internet speed"

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