"FROM DIGITAL DIVIDE TO E-ECONOMY: ISSUES AND STRATEGIES FOR PUBLIC POLICY"

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Workshop Report

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Executive Summary

"From Digital Divide to E-Economy: Issues and Strategies for Public Policy" was the subject of the workshop which took place in Malta between the 22nd and 25th July, 2002.

The workshop was organised by the Commonwealth Network of Information Technology for Development (COMNET-IT) in collaboration with Malta Information Technology and Training Services Limited (MITTS). It was sponsored by the Commonwealth Secretariat and cosponsored by Deloitte and Touche Malta.

Mr. Joseph R Grima, Head of the Public Service of Malta, on behalf of the Government of Malta, welcomed all those present.

Mr. Henry Alamango, Executive Director of COMNET-IT, welcomed the participating delegates on behalf of the Commonwealth Secretariat and COMNET-IT.

The workshop was officially opened addressed by **The Hon Dr Austin Gatt**, Minister for Justice and Local Government, Government of Malta.

The workshop focused on three main themes; The Digital Divide and E-Economy, E-Commerce and E-Government. A number of plenary sessions covered the experiences of Malta and other countries within and outside the Commonwealth and also drew from best practice. These have shown that the new and emerging information and communication technologies (ICT) can indeed transform government and business.

It was affirmed that the digital divide is as much within countries as it is between countries and its causes include but are not limited to technical infrastructure. Governments and the private sector share responsibility for the evolution of both the information society and the electronic economy. Governments need to create an environment of flexible regulation allowing greater access to knowledge. This requires that ICTs become a highly visible feature of the policies and strategies of national governments. Concerted business strategies must drive the application of the technologies and address the basic development of the e-economy.

A number of issues including the information and technical infrastructure, human resource capacity-building and legal frameworks were examined through national case studies (Botswana, Bangladesh, Canada, Malaysia, Malta, Republic of Ireland, South Africa). Each of these examples showed the importance of widespread education, strong legal and policy frameworks and the crucial importance of government leadership. A key challenge is to accelerate the rate of telecommunication services penetration and the focus on national and regional ICT strategic directions. Another challenge is the investment in the training of human resources to meet the skills requirements of government at all levels as well as the private sector. The need for a legal framework goes well beyond telecommunication regulations but extends to enabling legislation such as e-signature law, privacy and security protection and computer misuse. Legislation should also provide industry with the necessary confidence with regards to security, intellectual property rights, and privacy of e-commerce transactions amongst others.

A number of working groups explored the issues and opportunities of e-commerce and E-Government regarding legal challenges, technical and human resource

challenges as well as access and awareness Challenges. The issues raised demonstrated that political resolve and leadership are critical for the successful implementation of an e-commerce environment. Consequently the commitment of influential parties, to champion e-economy and E-Government initiatives and a positive reaction from the public are considered key success factors.

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1. Introduction

Mr. Joseph Grima, Head of Public Service, Malta welcomed those present on behalf of the Government of Malta proceeding with a brief description of the history of Malta. Mr. Grima outlined the process of change in the Public Service that started in 1990 and the Government's intention to move forward with a crowded agenda for continuing reform. Mr. Grima stated that it has been a structured approach, sharply focused on the ultimate objective – to improve the quality of life of the Maltese people.

Mr. Grima said that many Governments are looking towards the future with anticipation in respect of the benefits it could bring. However, the concerns about the new digital future include the possible digital divide between countries, and the internal divide between different parts of the population, within the same country. Globalisation, which is both driving and being driven by the e-economy, will magnify the negative impact of either aspect of the digital divide and reduce the timeframe within which, the negative consequences begin to be felt. The responsibility for closing the digital divide must be borne by Governments.

Mr. Grima concluded by saying that E-Government can contribute to the development of an e-economy. The challenges ahead are huge, but so is the importance of addressing and meeting them.

Mr. Henry Alamango, Executive Director, COMNET-IT gave an introductory address on behalf of the Commonwealth Secretariat and COMNET-IT, in which he began by describing the comparative advantage of Commonwealth membership. The Commonwealth is a global microcosm of fifty-four countries, sharing common legacies derived from a common past leading to a similar regulatory framework and education system. The countries form both a formal and an informal association at the political level and in various programmes of the Commonwealth. The relevance of the Commonwealth was reviewed as a result of the Durban CHOGM by a high level group. As a result, an IT-expert group was commissioned to draw up an action programme for the diffusion of information technology in developing countries. The programme was subsequently endorsed at CHOGM in Australia as the Commonwealth Action Programme on the Digital Divide. This is consistent with similar initiatives undertaken by the UN, and the G8 countries. The Digital Divide is now a political priority item along with HIV/AIDS, Poverty and Debt Reduction.

Mr. Alamango described, briefly, The Commonwealth Network of Information Technology for Development (COMNET-IT). COMNET-IT is an international foundation hosted and supported by the Government of Malta and the Commonwealth Secretariat. COMNET-IT also enjoys support from a number of national IT Policy agencies from Canada, India, Jamaica, Malaysia and South Africa.

COMNET-IT has held workshops, focused on regional and sectoral Informatics strategies, in a number of countries including India, Canada, Jamaica, Malaysia, South Africa and Mauritius. COMNET-IT has partnerships with UNESCO, the German Aid Agency GTZ, Tanzania Commission for Science and Technology (COSTECH) and the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), which acts as its regional focal point.

The purpose of the four-day workshop was to provide an understanding of the opportunities, issues and strategies associated with the topical subject of the e-

economy. Workshop sessions would include the identification of ICT opportunities for E-Government in a number of mainstream sectors and an analysis of cross-sectoral issues. These include the legal, technical and human aspects that arise when implementing the e-economy. Social issues inherent in the e-economy would also be identified and discussed.

In his opening address the **Hon. Dr Austin Gatt**, Minister for Justice and Local Government, Malta, recalled that two great developments of immense historical significance were the dismantling of the Berlin Wall, bringing political freedom to the eastern part of the European continent and the invention of the World Wide Web.

Hon. Dr Austin Gatt said that the Maltese Government was endeavoring to eradicate the digital divide in Maltese society, by a framework moulded on the basis of three basic pillars. These were:

- Digital connectivity for everyone;
- The attainment of synergies between all players in the information society and economy;
- The need to inculcate the appreciation and the demand for the information society on a national scale.

The solid framework, provided by these essential pillars, formed the basis to develop a suite of focused initiatives, targeted at addressing the deepest roots of the digital divide in Malta. This undertaking was being done in four inter-related policy streams.

- Ensuring accessibility to information and communications technologies, particularly to the Internet, to every Maltese citizen;
- Making information and communications technologies, particularly at entry-level, more affordable;
- The introduction of ICT-education at all levels of the educational system and society at large;
- Formulation of specialised initiatives for the three groups considered most vulnerable to the digital divide. These are senior citizens, under-privileged families and persons with disabilities.

Minister Gatt stressed that the Maltese Government had demonstrated clear determination, in adopting an approach of pragmatic strategy backed by a strong political commitment and support for the benefit of all members of Maltese society.

2. The Digital Divide and E-Commerce

The second plenary session consisted of two presentations describing typical steps that may be adopted by a country attempting to bridge the digital divide and the technological hurdles associated with such an objective.

Mr. Alan Alden, Deloitte and Touche, Malta, defined the digital divide as:

"the gap between those who can effectively use new information and communication tools, such as the Internet, and those who cannot"

Mr. Alden said that this is substantiated by statistics that point to the close relationship between standard of living and levels of Internet usage. Internet usage is highest amongst the richer social groups.

- 41% of the global online population is in the United States & Canada;
- 27% lives in Europe, the Middle East and Africa (25% of European Homes are online);
- 20% of the online population logs on from Asia Pacific - (33% of all Asian Homes are online);
- Only 4% of the world's online population are in South America.

Mr Alden went on to describe the stages of the Internet's development to a platform for e-commerce and defined e-commerce as:

"types of transactions that are carried out electronically as opposed to "over the counter".

Again statistics indicated that an average of 75% of connected users have shopped on-line at least once yet out of a world population of over 6 billion persons only 430 million persons were actually on-line.

This clearly indicates, Mr. Alden states that the economy may benefit by bridging the digital divide. This may be achieved by action by:

- The international community;
- Governments;
- The business community;
- Universities and;
- The People themselves.

A strategy to bridge the digital divide should include or address the following:

- An Audit, to gain a clear understanding of the extent of the digital divide in the applicable environment;
- Performing a SWOT analysis to answer questions related to:
  - What are the strengths? – Willingness to learn and participate; can start project without repeating the mistakes of others; untapped resources…
  - What are the weaknesses? – Lack of knowledge; funds; infrastructure; priorities…

    - What opportunities can be exploited? – Global market; valuable information on health, farming; new labour market; attract foreign investment…
    - What threats are to be avoided? – Cultural problems; low take up; investment quickly becoming obsolete…
- The objectives determining the target audience and services to be accessed;
- The Plan comprising Funding, Technological Framework, Human Resources, Legal regulatory framework, E-governance and availability of International Assistance;
- What resources are required by the projects;
- Direction. Government should provide direction but should also give users what they want.

Mr. Alden described the risks, from an economical and technical perspective, associated with e-commerce in general. He described the International Security Standards and ISO Standards available to the Information Security as a means to protect Confidentiality, Integrity and Availability. Security must be high on the agenda of any or e-commerce (or E-Government) programme.

The speaker concluded by saying there is no magic solution for e-commerce. In order to achieve e-commerce an organisation needed to:

- Demonstrate resolve to achieving e-commerce;
- The right environment needs to be created;
- It must be planned;
- A phased approach maybe of benefit;
- The organisation must know and assess the risks as well as the benefits;
- Past mistakes should not be repeated;
- People must be trained.

Mr. Godfrey Vella, CEO, Data Stream Ltd, Malta, recommended that every country should have a formal ICT body, tasked with the formulation of its National ICT policy. The ICT body should possess research capabilities and should be catalytic in nature but should not be involved in implementation. Mr. Vella made comparisons with the Malta National ICT strategy, which started in 1994 and had a substantial influence on what was happening in Malta. The telecommunications policy had also been fundamental to the shaping of ICT concept. The simplistic model is infrastructure comprising, shared infrastructure as the basis for ICT, the human element, synergy between the available technology and the ability of people to use the technology in order to create business and social opportunities. As all this happens in a particular environment, it is important to consider the formulation of strategy in terms of the political, economic, legal and social context as well as the impact on other policies including industry and the public sector.

Currently the focal point of technology is:

- Internet Communications and speeds of connection;
- Achieving International Broadband access.

Provided the right policies are in place, broadband access may be used to centralize, in a cost effective way, the processing power required by the end-user. This way the user can benefit from the use of less powerful and therefore cheaper hardware.

When undertaking policy formulation, it is important to keep abreast of the rapid developments in Internet technology and the changes brought about by it.

Mr. Vella described the Maltese telecommunications arena, which up to a few years was a state monopoly. Following a liberisation process there were now three players.

Experiences learnt from the market liberalization process has shown that:

- Dealing with incumbents can be complex;
- New competitors, entering the market, may lead to lower prices and increased market penetration;
- Opening the market to competition does not necessarily attract new entrants;
- Consumer's rights require adequate legislation and an established regulatory body.

Mr. Vella summarised the factors that created an environment for effective telecommunications in a country as:

- Competition as the essential force to drive prices down and increase market penetration;
- Service providers. Economies of scale are critical. Infrastructure does not necessarily improve by an increase in the number of service providers.
- Fair trading. Competition is healthy, but only when carried out in a just and fair manner;
- Total liberalisation of the telecomm service provision. Introduction of a class license stating conditions, which have to be adhered to by the service provider. Hence a service provider can start operations without applying for a license but the regulator has the right to terminate his operations, if the class license is violated;
- Legislation should not favour a prescriptive approach but an competitive enabling framework approach;
- Regulation should concentrate on user rights, user education and should ensure that service providers give clear explanations of their services;
- Compulsory infrastructure sharing or unbundling is a hot issue. Forced infrastructure sharing can inhibit new investment;
- Pricing should be subject to market conditions;
- A National ICT Policy is critical for success.

Mr. Vella concluded by suggesting that telecommunications should be controlled by the market forces. Prescriptive control should only be applied in exceptional circumstances.

3. E-Commerce Case Studies

The third plenary session consisted of three case studies, comparing the steps taken to create the enabling environment in three countries each in a different state of economical development. These were Bangladesh as a case study for a developing country, Malaysia as an example of a country with an emerging economy and the Republic of Ireland representing a country with a developed economy.

3.1. The Case of Bangladesh

Dr Muhammed Abu Yusuf, Ministry of Science and Technology, Bangladesh, spoke about the general requirements for e-commerce and the current status, in the developing nation of Bangladesh. The majority of existing websites were informational. These were mainly company websites, especially for the larger institutions, mainly in real estate, pharmaceutical and manufacturing industries followed by universities and information technology training institutions and a few associations, trade associations in particular.

Few transactional web sites existed. These normally belonged to expatriates living in the United States and were mainly used to provide e-mail, job opportunities and to send gifts to family members back at home. Only a few actually targeted domestic consumers. The first integrated Business-to-Business (B2B) site was launched in January 2001.

Dr Yusuf identified the problems associated to Business-to-Consumer (B2C) as:

- Poor market awareness;
- Investment problems for the physical delivery process;
- Businesses are very reluctant to invest in e-commerce
- Payment limitations including delayed international credit card remittance;
- Low bandwidth;
- A lack of skilled IT workforce;
- Legal frameworks for electronic contracts, digital certification and encryption are missing;
- Foreign currency restrictions.

According to Dr Yusuf these challenges may be addressed by:

- Raising awareness: policies that facilitate awareness-raising programmes;
- Financial support for focus group campaigns organised by business associations;
- E-governance projects;
- Education in information technology;
- A dramatic increase of Government expenditure for IT education in schools and universities;
- Rationalised training such as "Train-the-trainers" programmes.

It was also important that both Government and private sector work together towards facilitating e-commerce.

The public sector may lead by:

- Undertaking e-governance projects;
- Implement ICT infrastructures including telecommunications;

- Upgrade education and banking facilities;
- Introduce legal frameworks;
- Introduce awareness raising programmes;
- Facilitate appropriate investment programmes.

The private sector could influence by:

- Piloting commercial e-commerce projects;
- Demand "innovative" mechanisms such as facilitated online payment mechanisms;

Dr Yusuf concluded by saying that lLegal and technical infrastructures were being developed in order to connect the country to the data superhighway in the near future.

3.2. The Case of Malaysia

Dr Baharom Jani, Economic Planning Unit, Prime Ministers Office, Malaysia, explained how Malaysia, as an emerging country, has taken a strategic approach towards achieving e-commerce market readiness. It did this by setting up the necessary structures to ensure, that every incentive was coordinated and was in line with the overall objectives.

A National E-Commerce Committee was set up under the state secretary to Government, with an inter-agency taskforce ITEFC at Government sector level. The committee has the obligation to refer any matter regarding policy to the Prime Minister. With regards to e-commerce, Malaysia is at par with other countries. However, in e-business, the country is still short of the more advance nations. A study for the preparation of an e-commerce platform, in order to formulate a strategic direction, identified five challenges:

a. Building critical mass;
b. Building trust on the web;
c. Attracting inbound consumers;
d. Organisational transformation into e-commerce based organisations;
e. Policy for regulatory framework.

The challenges could be faced by increasing participation in e-commerce of leading corporate organisations, through special incentives of the Multimedia Super Corridor. Also, the Total Factor Productivity had to be increased, by improving the competitivity of Local Companies to Global levels.

Over the past years the e-commerce market segment had shown an increasing trend. The assumption was, that a potential substantial increase existed over the following three years. The issue was how to force companies to exploit the e-business opportunities especially the Business-to-Business (B2B) concept.

Malaysia was carrying out an e-commerce assessment using various measurements for each of the following indicators:

- Infrastructure and technology;
- Access to services;
- Level and type of Internet usage;
- Promotion and facilitation activities;
- Skills and human resources;

- Positioning for digital economy.

Dr. Jani described Malaysia's public e-business initiatives. These included the introduction of seven "Flagship" applications that will be linked into one e-business application, known as the Technopreneur Environment.

Another flagship was the Multi Application Smart Card, suitable for maintaining personal details including driving license, passport, medical records, digital signature and a limited amount of e-cash. The cards are password protected enabling only authorised persons have access to confidential information.

The current problem was recognition, by other countries, of the card's validity. In order to create an environment for e-commerce, besides content and framework, a number of Cyber laws were introduced. Two companies had the authority to issue digital certificates. An banking association provided the Electronic Payment Gateway and the card could be used to access any ATM in the country. At the same time a number of private e-commerce initiatives being undertaken. These involved various sectors of the economy.

Dr Jani concluded by announcing that Malaysia had been recommended to assume the Chairmanship of the G-15 ICT Task Force, composed of fifteen Asian countries collaborating in ICT projects.

3.3. The Case of The Republic of Ireland

Mr. Rory Power, Enterprise Ireland, Republic of Ireland, spoke about the rapid growth of a relatively small country during the 1990's. Enterprise Ireland is a State Agency, whose role was to develop Irish indigenous companies with a view of increasing exports and employment. This was achieved by encouraging companies to be innovative and progressive. A prime role of Enterprise Ireland is research and development. In fact Enterprise Ireland was involved in research and development, with universities, to participate at European Level and collaborated with local companies at global level. Ireland, a non Commonwealth Country, was traditionally an agricultural economy. Ireland never had a heavy industrial base and inward investment came from America. In the early 1970's the Prime Minister set up the Industrial Development Authority (IDA) with a mandate of encouraging inward investment. The IDA developed incentives that were still available today. The economy was stagnant during the 1980's. This was the time for a big push to use new technology and utilise workers with a higher education. Currently, Ireland was still a growing economy, albeit slower due to recession in many parts of the world.

The growth in exports was attributed mainly to the ICT and pharmaceutical sectors. Ireland is a small open economy as vulnerable as any European economy. People migrated to America during the 1860's famine. Today, forty four million Americans have an affinity to Ireland, which is an important factor when dealing with economy.

Mr. Power summerised the reasons for Ireland's success as:

- A young and well-educated workforce;
- Low corporation tax;
- Incentives for inward investment and;
- An English speaking population, the language in the ICT world;
- Access to the European Union;
- Industrial stability.

Industrial stability resulted from a Government sponsored national wage agreement lead to increased productivity and growth.

As part of the European Union, National Law had to be harmonised with European law. The European Signature Directive and E-Commerce Directive was enacted. There are three different Legal Systems with fourteen different sets of laws relating to trading in Europe. Bi-lateral arrangements between countries were effective on a one to one relation, but failed overall. Hence the European Commission made a set of umbrella laws for the European regions.

Deregulation is still a political issue. Broadband is not available on the grounds that it is not economically feasible. More recently, the Irish Government appointed an E-Minister for Information Technology. The minister reports direct to the Prime Minister.

The e-commission has been involved in shaping the e-policy and the E-Government action plan.

Mr. Power gave details on a number of E-Government projects including BASIS that, similar to other countries with e-governance programmes, provides access to state services on line thus encouraging citizens to go on line. OASIS is another project that supplies birth certificates, deaths certificate and so on on-line.

Key success factors emanating from the Irish experience in e-projects include:

- Trust and confidence in the security and privacy of on-line systems including safe credit card use;
- Education of the younger generations (the future users);
- Replacement of paper documents with electronic documents;
- Legal systems need to recognise the new documents even across international boarders. The Global Customs Organisation has a big influence on cross border business matters.
- From a Business to Business perspective, a win win situation;
- From Business to Consumer, the key success factors are access and speed.

Mr. Power concluded by stating that the key to Ireland's success laid in its ability to maintain competitiveness by reducing the inflation rate to match other European countries, improve the value chain, and eventually part of the European Knowledge Economy.

4. Speakers Panel Digital Divide and E-Commerce

The panel, composed of the day's speakers, discussed several issues about the digital divide. Differences may not always be real, but depended on perception influenced by the intended achievements. E-Commerce can help companies both at the regional and global level. Countries should undertake e-commerce projects in a planned approach. Over ambitious projects carry high risks. Ambitious goals to reach e-readiness parity with other countries are best tackled in phases, based on projects with realistic and achievable goals.

A macro level or top down approach can be applied targeting organisations in conjunction with the micro level bottom up approach to reach all people. Thus, making basic requirements accessible to individuals in all areas within the country.

Access to information can be used as a tool, to generate income, by content development and e-commerce applications. Hence IT education at all levels is important.

As the Government and the Private Sector become dependent on e-business, the procedures and policies must be in place to support the structure. Legal requirements must be in place to permit audit trails. A legislation update is required to recognise the legality of electronic documents. Due diligence must be exercised.

Adequate backup and disaster recovery procedures must be in place to stand the test of time.

In the developing world, the political pressure to come up with success does not always leave time for proper attention to adequate planning required before undertaking a project. However, in certain instances, the risk of not doing is worse than the risk posed by doing, especially if retrofitting can be effected.

5. E-Commerce and E-Business

The second day of the workshop focused on e-commerce and e-business approaches. Presentations by a panel of subject experts highlighted the challenges whilst working groups brainstormed the issues and suggested possible solutions.

E-Commerce Approaches
The fourth plenary session consisted of three presentations describing e-commerce approaches from three perspectives:

- Business to Business (B2B);
- Business to Government (B2G) and;
- Business to Consumer (B2C).

5.1. E-Commerce Approaches – Business to Business (B2B)

Mr. Roy Sunstrm, Principal, Sunstrum Hanel and Associates Inc., Canada, remarked, that many bold predictions, made in the 1990s, turned out to be overstatements of the trend in this period.

With the economic downturn, many technology startups have failed. This was not limited to, nor did it exclude companies focused on e-business applications and services. Notwithstanding this selected companies were registering success in the provision of e-business services.

Mr. Sunstrum provided a synopsis of B2B in the years 2001 and 2002 which showed that on-line business was still limited to occasional and uncoordinated on-line shopping of office supplies. Part of what may have delayed the implementation of e-business methods as noted in the A.T. Kearny quote, is the widespread downsizing of corporations. Process innovation is more difficult to accomplish, although more necessary, with reduced human bandwidth.

Notwithstanding the discouraging results to date B2B may still be achievable if approached correctly. In order to understand the meaning and potential of B2B one needed to define and understand the supply chain. Whilst there are many perspectives that define the supply chain "The Supply Chain Council" defines a Supply Chain Operations Reference Model (SCOR), which includes:

- All customer interactions, from order entry through paid invoice
- All product and service transactions from your supplier's supplier to your customer's customer, including equipment, supplies, spare parts, bulk product, software, etc.
- All market interactions, from the understanding of aggregate demand to the fulfillment of each order

SCOR does not include sales and marketing (demand generation), research and technology development, product development and some elements of post-delivery customer support. SCOR assumes but does not explicitly address training, quality management, information technology and administration

The B2B can therefore be defined as *leveraging the internet to interact, transact and collaborate with members of the organisation's value chain.* This contrasts with e-

commerce that can be described as *using the Internet as a means of conducting sales transactions.*

There has been a clear pattern of evolution from discrete, people-based, more bureaucratic transactions, to a more empowered system-based environment. The controls available with e-business have enabled this empowerment without the loss of discipline. Agility is provided, more than ever before, through the use of information and not simply inventory, and capacity, two very expensive assets.There is much activity and value in the scope of e-commerce, but the potential lies in the broader e-business. Examples of these broader values include:

- Design;
- Service;
- Business Process Outsourcing;
- Complexity and Resistance to Change;
- Cost and Scalability of I.T. Solutions;
- Root Information Integrity;
- Suitability of Solutions.

Speaking on the suitability of solutions Mr. Sunstrm said that relationships are between people, not systems. Particularly in high-risk, complex relationships, person to person interactions are required to nurture and sustain the relationship. A supply chain full of weaknesses, including but not limited to poor data integrity, will not perform well even with the best e-business solutions. The speaker then focused on the supply chain environment in terms of risk and cost, and the positioning of e-business.

Mr. Sunstrum made the following conclusions:

- Despite intense turmoil in the past 5 years, e-Business is here to stay, and to add value;
- Much of the benefit of e-Business is outside of the scope of e-Commerce (buying & selling);
- e-Business techniques have to be fitted to the appropriate environmental conditions to be effective;
- Marketplaces, auctions, mostly for low risk (indirect);
- Higher value (eg design) applications especially useful in high risk (direct) environments;
- Many of the techniques are suitable to governments;
- All economies will benefit from policies which encourage utilisation of e-Business as leverage for growth.

5.2. E-Commerce Approaches – Business to Business (B2B)

Mr Damian Xuereb, Malta Information Technology and Training Services Ltd, Malta, shared his opinion on, what he described as a complex process, the Business to Government (B2G). Economic growth and customer service induce the introduction of the, “Value Age in e-commerce”.

Access to information has increased, but there is very little value derived from the Information. In seeking this value, the power triad made up of the three drivers, “convenience, confidence, and control”, is triggered. Governments approve the enabling technologies, contribute to growth by providing the structures and encouraging use.

E-Commerce will necessitate reengineering for global selling. People are influenced by successful businesses. The private industry is growing rapidly by embracing this technology and using it to derive new potential. The ripple effect is on other businesses, including Governments, who are embracing the technology to provide their own services.

The public and private industry proposes change. Change requires reform, which is resisted strongly, thus time consuming. Lengthening the process, will invalidate change, hence the project life cycle cannot extend indefinitely. Efficiency is an important criterion.

Technology is a crucial factor in causing change. Technology does not change management, but the latter accept change because of technology. E-Government enables citizens to interact efficiently with Governments. The pivotal role of Government is to create a central point for public data. E-Government, with established policy and standardisation, would generate opportunities to the private sector by providing applications on line, stretching across the private sector by triggering processes. The public sector can be influenced to change through E-Government.

If the Government accepts the Business to Government (B2G) opportunity, new centralised services, which private businesses can use to avoid duplication, would be established. Economies of scale can be reached to make investments in expensive technology viable. Equal opportunities will be available to all.

At the application level processes can be standardised for cost efficiency. Partnership with businesses makes common investment funds available. A successful B2G venture will result in the automatic promotion of the business, through the power triad i.e. convenience, confidence, and control.

Mr. Xuereb concluded by suggesting that policy makers should concentrate on business issues and leave the technologist to do the work. To implement considerably manageable pilot projects and to manage risk. Disasters can be detrimental to customer confidence in electronic services delivery.

5.3. E-Commerce Approaches – Business to Consumer (B2C)

Mr. Antoine Gouder, Terranet Ltd., Malta, described how Terranet, an Internet based business-to-consumer (B2C) company, was rendered viable through partnerships with Oracle, Sun and Checkpoint. The company is a subsidiary of Maltacom p.l.c. and offered services through four brands:

- E-shore – Internet services for corporate customers;
- Maltanet, - ISP offering connectivity to residential and corporate clients;
- Dive - New media arm offering content over a variety of new channels;
- Searchmalta – Internet search engine on Maltese related information.

The company also offers an electronic payment gateway through a local bank. It is an open market for shop fronts and has shopping cart functionality. The company experienced business flaws on startup mainly due to:

- Lack of planning;
- No Internet market to draw business to the website;
- Lack of appreciation of the nature of processes required for successful e-commerce;

- Lack of market segmentation.

A holistic and long-term business approach was required. Terranet's approach included:

- Identify Opportunities. What can Terranet sell on the net? Considerations must include size and geography of the country. Local produce, markets, resources and competition;
- Develop the Channels. Terranet set-up and or purchased multiple channels targeting different sections of society.
- Provide the Tools. A total e-commerce solution including Electronic Payment Gateway, Software Development, Consultancy in Website Management, Internet Marketing, Co-Location, Rental of Office Space, Fees with an element of Risk Sharing;
- Train and Advise. Provide training and consultancy in a number of Internet and e-commerce areas;
- Build Confidence. Terranet sought to win trust from its customers by investing in security, partnering with leading names and conducting an awareness campaign.

Mr. Gouder concluded that Terranet is an example of a profitable Business to Customer organisation operating in a niche market. Notwithstanding this there existed still untapped opportunities in the Tourist, Emigrants and Distribution Depot market segments.

6. E-Commerce and E-Business Challenges

The fifth plenary consisted of four presentations by a panel talking the challenges to E-Commerce from the Legal aspects, Technical aspects, Human Capital aspects and access and awareness issue.

6.1. Challenges to E-Commerce - Legal

Dr Michael Frendo, Managing Partner, Gatt Frendo Tufigno, Advocates Malta, focused on e-business legal requirements stating that law is not restrictive but regulatory and should enable e-commerce as a policy and strategy issue. Countries with a legal framework in place have a competitive advantage.

Basic Laws are required to regulate:

- E-Commerce;
- Computer misuse and;
- Data Protection.

Laws should lead and not follow the development of the sector. As cyberspace crosses frontiers regulation issues concern jurisdiction. The question raised is, which country's law governs the issues? Laws to cover business across frontiers existed before the cyber era but the dramatic increase of business transactions, brought about by new technologies, has complicated the issues regarding intellectual properties, consumer protection, computer crime, such as, viruses effecting foreign economies, and protection of personal data. A global law is difficult to achieve, since e-business cuts across political frontiers and laws are based on political issues. However, there are initiatives at regional level. Ideally, every country should facilitate and promote e-business, and regulate electronic transactions for validity, in its court of law, and to have same status as paper transactions. The European Union issued a directive, stating that, when a product or service is on offer on-line, the transaction is complete when the consumer (the end-user) at the other end transmits back a reply, in acceptance of the offer, that is, when both sides agree to the transaction.

Consumers need legal protection. Consumers have a right to know, with whom they are dealing. Consumers have a right, to have their data protected. The validity of electronic signatures should be legally endorsed. Internet service providers should also have their legal protection. Unless they hold the data, or infringe the intellectual property rights, they cannot be held responsible. Where they do have control, they must show responsibility. At a national level, new crimes related to computer misuse have increased. What is originating in one country can have an effect on another country. A crime is deemed to have taken place in the country where the effect is felt, even though the crime has originated in a different country. Getting the culprit is another issue of policing and enforcement. That is, countries are assuming an extra judiciary authority, by saying, if there is an effect in another country the crime is committed in that country. By treaties, legal protection is coming together world wide just as the Internet is worldwide. Data protection for the individual includes the right to know what is being held electronically about him or herself and to rectify any inaccuracies. Individuals may consent to allow use of personal data for specific needs. In transferring data across frontiers, the same level of security has to be agreed upon by the different jurisdictions in order to adhere to agreed codes of practice.

Dr Frendo concluded by suggesting, that when establishing regulatory authorities was important to ensure, that the regulator had a sense of economic development to

appreciate and provide guidelines to businesses, rather than restrict businesses. A legal infrastructure ensured a basis for confidence and trust in e-business.

6.2. Challenges to E-Commerce - Technical

Mr. Damian Xuereb, Malta IT and Training Services Ltd, elicited some concepts on technical considerations regarding the implementation of e-commerce. In an E-Government scenario the equation was the demand from the Information society, for the supply of service electronically, satisfied by the implementation of an adequate technical infrastructure. This meant that provide the service electronically Government had to transform its operations. Quoting from Forrester Research, Experimentation, Integration and Reinvention are prerequisites for change and necessary for the creation of innovative ideas necessary to reinvent processes.

Electronic service delivery increases customer expectations. Hence, technological considerations cannot be overlooked. Speed, reliability and bandwidth were essential in meeting current and future demands. A scaleable, modular and flexible technology enables expansion and rapid growth. When implementing an infrastructure, it was important to ensure that the structure will remain resilient for a number of years.

Delivery Channels must be merged through the technical architecture. The technical considerations being:

- Consistent and cohesive interconnectivity across Government entities, and;
- Centralised data registers and compatible data standards linked to unique identifiers thus avoid inconsistency in data.

An Interoperability framework that provided accessibility, social inclusion and a common platform throughout Government was a must. Persons with disabilities cannot be left out. This could be achieved through a wide choice of electronic delivery channels. Traditional over the counter services may remain as long as there is demand for such services. Local Governance can be used as a physical gateway to electronic services. Privacy and security were required to build confidence and trust. Demand had to be stimulated through marketing campaigns, awareness programmes and by the creation of a sense of urgency for electronic service delivery.

Branding was essential as it signifies quality of service and trust. Client requirements had to be understood. The Information Society and the economy can experience growth, by incentives for electronic services and by targeting critical interfaces between Government and society. Education was the key to success and diffusion of electronic service delivery.

Mr. Xuereb suggested, that the Public Service should be re-engineered to create a Virtual Seamless Government, extending from the Public Service to the broader Public Sector. Championing was crucial to E-Governance but commitment in leadership had to be visible.

6.3. Challenges to E-Commerce - Human

Mr. Errol Hewitt, CEO, Central IT Office, Jamaica, said that the current problems of deficiencies in human capital, in respect of accepting the challenges to establish electronic commerce in developing countries, had to be addressed from a macro planning approach. This would set the stage and the structure for the laying of a sound foundation. The technology was readily available. There was no need to rush to acquire, without first setting the proper plans in place, identifying thereby, the priorities and the requisite funding.

The continued and rapid advance of information technology has made access to knowledge easier and more readily available, to the wider population and around the world. A range of factors, had to be faced and resolved, in order to yield positive results confronted the application, of technology. The approach to establishing the technology in developing countries, is therefore of critical importance.

The consensus, among grant funding institutions and experienced ICT planners in developing countries, was that the major problem lay in the management of change. This ranged from the urgent need for capacity building, the required structure for labour and training, to the resistance to change and the clinging to existing authority.

As the technology is so pervasive, as the establishment of the technology is so crucial to both social and economic development, as well as the increasing democratisation of the state, the cost benefit, together with the national urgency for its introduction, suggests the widest application possible, based on the computer literacy of its people. Hence, the transferability and applicability of e-commerce must be assured and is best obtained, by the identified leadership of the Head of Government.

In the case of all developing countries, which have made significant progress in the industry, the Head of Government was closely identified with the national programme for the successful establishment of e-commerce, dealing with human education and training requirement needed to manage e-commerce; and dealing with entrenched authorities.

The imperative was that developing countries, faced with social and economic pressures, must start to record consistent growth and at the same time accelerated broad based employment. Developing countries had to utilise every advantage in order to compete with other developing countries for a market share of the global ICT business. In order to realise this vision however, and to efficiently and cost effectively integrate the human with the technology, Governments must be proactive in prioritizing limited resources by proper planning, to build the foundation for a rational expansion of the IT sector into higher value-added services.

The drive to transform developing countries into “knowledge-based” societies will necessitate intergovernmental as well as private sector cooperation, commitment and partnership in the context of an overall framework or plan for the logical development of the ICT sector.

The laying of appropriate foundations required both a national strategic plan and within it, detailed sector plans, which sought to ensure seamless inter-linkages between all sectors, ensuring the full accommodation of all citizens—in meeting the challenges to human capital, which come about through the establishment of e-commerce.

The pervasive education/ training and the provision for “life long learning” had to be inter woven within all sectors. As the technology is ever “new”, especially in developing countries, the insufficiency of the existing management structure and the paucity of suitably trained managers had be tackled urgently.

Education and Training then becomes pivotal in meeting the human capital challenges for e-commerce. Access had to be provided and motivation applied to embrace every citizen in each community in the process of life long education. The preparation of sector plans has the advantage, of providing a clear view of directions

and just where and what is required in terms of appropriate management and management skills. It also indicates just how these needs can be filled. The successful establishment of e-commerce requires the nation to be more than just the consumers of the technology. It had to also ensure the introduction of an industry utilising the locally available innovative skills to adequately fashion the technology to meet the needs of all the sectors. It also meant, that the laws were reviewed and new legislations enacted to provide the proper environment to foster the proper development of e-commerce.The problem of managing change was a major problem in most countries; hence addressing change management was of critical importance and had to be a high priority.

It was important to note also, that as much as the development of e-commerce is a challenge to the private sector, there was an equal challenge for E-Government policies to be facilitative of development. In addition to the infrastructural facilities, Government is challenged to communicate the total vision and benefits of the knowledge society and must secure sufficient investments to hone the human capital.

Experience indicated two basic reactions to the introduction of the technology:

- An ignorance of and reluctance to learn to manage it; and
- Absorption of the technology to the point of addiction.

In the case of the former, a strategy had to be decided on which to create both a positive response from the public and target the decision makers. Apart from the intensity of the usual media approach, a far more satisfactory and longer-term beneficial approach was to focus on community development. The addiction that is common and results in wasteful behavior had to be neutralised by the utilisation of proper planning, coordination within institutions and nationally.

E-Commerce had to be made to accommodate the widest range of citizens to serve the interest, intent and investment of the state. The question of competence has therefore to be a critical concern. The national, sectoral and institutional plans must integrally inter-weave within them adequate training required to successfully implement the plans. Such training had to allow for the reality of continuing learning as knowledge is the coin of today's economy.

Mr. Hewitt concluded that failure to utilise trained personnel would result in a reluctance to invest in the expense of training. This was a major responsibility for every state and had to involve both the attraction of investors by way of the reservoir of training facilities and personnel, and incentive programmes, as well as by making every effort to ensure the development of an ICT industry rather than just being consumers of the technology.

6.4. Challenges to E-Commerce – Access and Awareness

Dr Gerald Grant, Carleton University, Canada, focused on, access and awareness as two interlinked constructs, without which, e-commerce will not succeed, even if huge investments in technology and services are in place.

Access challenges are the reach and range of ICT and infrastructure services in remote rural areas. For example residents in capital cities are usually the privileged in respect to availability of services. Likewise high technology sectors may have more access. Technological access may not be available to rural areas.

Different technology platforms may each have advantages and disadvantages in terms of speed, broadband, costs and feasibility. Access channels and interfaces may not be within the reach of all. Particular interfaces may be more suitable to a specific population group. Access Challenges include demographic and affordability factors, young and old may not have the same access needs, particular interfaces may not be suitable for disabled persons, social classes such as students who are in need of access for research purposes but may not be able to afford the service, and last but not least language can be a barrier to access to information.

Dr Grant concluded all these factors need serious consideration as without access there was no e-commerce. Awareness, critical to effective use of e-commerce, came from education and IT literacy.

7. Roundtables: E-Commerce Challenges – Chaired by Dr Gerald Grant

Working groups brainstormed the Legal, Technical, Human Capital and Access and Awareness issues, challenges and opportunities for e-commerce and mapped out needs for action. The following is a summary of the results

7.1. Deliberations of the Working Group on the Legal E-Commerce Challenges – Chaired by Mr. Saviour Cachia

The group identified the need for a Legal Framework enabling E-Government as a key issue. The framework was required to address the following issues:

- Legal recognition;
- The inspiration of confidence, trust and acceptance of the public;
- Protection and privacy of individuals personal data and rights of the consumer;
- Regulation and standardisation of e-contracts;
- Dispute resolution;
- Ensure legal equivalence;
- Integrity of data;
- Intellectual property protection;
- Digital signature;
- Security;
- Regulatory framework;
- External environment.

A legal framework was an opportunity to enable businesses and government services to meet the current trends in the information society, for faster access to data and on-line services provided by both private and public sectors. A legal framework provided an opportunity to improve and further develop standards, policies and procedures aimed at providing better service to customers or citizens through E-Government. The opportunity extended to the technological field, had to be adapted to the demands imposed by the legal framework.

It was recommended, that the challenges could be addressed through:

- Training;
    - Such programmes should include the training of trainers, seeking technical assistance and consultancy, and the promotion of sound ethics and practices;
- Technical Infrastructure;
    - The technology should be designed to meet the legal requirements of IT systems, in respect to audit and investigation obligations, which may be imposed by law;
- Social Framework;
    - The social framework had to address language barriers. In addition, the social framework had to mitigate the digital divide, by providing access to the new technology to all and through the implementation of a code of ethics, awareness programmes and a comprehensive educational programme;
- Cross Sectoral linkages;

- The establishment of links to all government sectors including the Courts Systems, Authorities and Regulatory Bodies;
- The implications of the new links are an increase in the cost of services, a need for cultural change including a change in the way of doing business.

The group concluded that the critical success factors included:

- Education and awareness;
- Legal recognition though the implementation of the legal framework;
- Measurement of success or failure through statistics of court cases, interventions of regulators and resolution of conflict cases.

7.2. Deliberations of the Working Group on the Technical E-Commerce Challenges – Chaired by Mr. Damian Xuereb

The group identified the following key technological issues and suggested solutions address the challenges brought about by the issues.

- Education;
  - Include ICT community training centre in rural and urban centres;
  - Include ICT in the national curricula;
  - Setup training institutions for elderly and disadvantaged persons;
  - Organise courses at holiday training centres, where students can be trained by other students conversant in IT;
- Accessibility;
  - Private and public enterprises can coordinate the set up of resource centres equipped with terminals having internet access where interested persons can be provided with assistance and guidance of qualified tutors;
  - Sponsored hardware acquisition;
- Infrastructure
  - The need to have adequate telecommunications in place;
  - The inclusion of ICTs in national curricula conducive to the yielding of highly capable professionals, that may contribute to reduce the expenses and tackle the complex tasks required for a robust infrastructure.
  - Co-locative environment, to other sites, may facilitate the maintenance and support, software upgrade and technical expertise, by providing tried and tested solutions in a cost effective manner;
- Communication;
  - Cable connections, especially low usage tend to be prohibitively expensive, especially where monopolistic situations exist, hence growth was hindered. Mobile network providers are privately owned, hence, they too tend to be very expensive. A suggested solution for the provision of broadband, to remote areas, is to revert to the Ministry of Finance to take ownership and commitment for the management and development of ICT project, especially in low priority areas. The Ministry of Finance is a strong Ministry with control over budgets;
- Leadership
  - Inconsistency in leadership needed to be addressed, to prevent problems due to limited literacy, lack of vision, authority and drive to implement projects. Education, ICT forums and the involvement of management in the implementation, at Prime Minister and Head of

Civil Service level, is crucial to the successful implementation of infrastructure for e-business.

7.3. Deliberations of the Working Group on the Human E-Commerce Challenges – Chaired by Mr Errol Hewitt

The group looked into the key issues of human capital from the general e-business perspective, as opposed to e-commerce. This broadened the discussion. The main issues of importance were listed as:

- Vision;
- The establishment of cross sectional advisory team to look into the issue of e-business;
- The implementation of a formal change management process catering for the re-engineering needs induced by e-business;
- The development of a human resource development plan that covered training and education needs related to e-business. Re-skilling may involve hire of experts in order to retrain people and exit management training for staff made redundant by the new structures;
- New opportunities for networking and for the transfer of skills or skilled personnel within Government, or across the private sector and government.

The benefit of a human capital infrastructure may be translated into improvement in the quality of life through:

- Improved competitiveness;
- Investor confidence;
- Consumer trust and confidence;
- Promotion of democracy and transparency in e-business;
- Currency competitiveness.

The following challenges to success were identified:

- Resistance to change;
- Transparency in the procurement of funds;
- Lack of technical expertise for the procurement and management of donor funds especially loans that imposed tight conditions;
- Diversion of funds from the original intended purposes;
- Absence of an enabling environment such as labour inflexibility and unrest;
- Timeframes in re-skilling to enable timely completion of projects;
- Inadequate planning.

The recommendations to address the challenges were:

- Education and Training;
    - Career planning activities to prepare human resources for the new opportunities emanating from the development and management of e-business;
    - Provision on-line training courses and refresher courses;
    - Monitoring, evaluating and amending as necessary the human resource development plan;
    - Human resource retention schemes;
- Technical Infrastructure;
    - The need for adequate telecommunications;
    - Access and availability to public terminals connected to Internet;
- Social Framework

    - To manage the issue of class culture in e-business, it was recommended to train the younger generations to embrace e-business;
    - Using the media as a powerful means of creating awareness.
- Cross Sectoral linkages;
    - A legislative framework is essential to enable an e-business environment, hence a country should have an e-commerce act;
    - Commerce, industry, law, telecommunications and finance are the major requisites for the successful development of e-business in a country.

The group concluded that the critical success factors included:

- Time frames in the re-skilling programmes;
- Adherence to career planning activities;
- Government commitment;
- Consumer trust;
- Investor confidence and competitiveness;
- Monitoring evaluation and updating of an e-business plan to ensure the objectives were being achieved.

7.4. Deliberations of the Working Group on Access and Awareness E-Commerce Challenges – Chaired by Dr Gerald Grant

The group looked at key issues concerning community access to electronic commerce.

First and foremost, infrastructure had to be in place to permit access to the particular services required by the target community. Researching the needs and demands of the target community could identify the type of services required and environmental needs such as social, cultural, educational, economic factors and geographic factors.

Investment in infrastructure and human capital was required to provide access and this could be expensive. Skills requirements ranged from technical and operational to problem solving skills. Access needed to be extended to person with disabilities.

Strategic requirements, to render access possible, needed to be approached with a project planning style defining objectives, functions and scope of projects. For effective project leadership, high-level political champions were required together with competent technical and business management.

Strategic opportunities emerge in:

- Education;
    - Information;
    - Partnership vision;
    - User exchange;
    - Lifelong learning;
    - Distance learning;
- Service;
    - Government Services;
        - Registrations e.g. Birth, death, passports applications etc;
    - Social Welfare;
        - Pensions;
        - Pension payout;
    - Health;
        - Health Information systems;

        - Telemedicine;
    - Business Related Services;
        - Information creating need for specific goods;
        - Transactions;
- Governance;
    - Political Awareness;
    - Interaction and participation on political issues;
- Access Technologies;
    - Points of Presence;
        - Accessible capability to connect communities;
    - Business Centres;
        - Permanent or mobile centres as required;
    - Satellite communication.

The main challenges could be summarised into:

- Technology;
- Resistance to changes brought about by process transformation;
- Gaining political will to champion the e-commerce initiative;
- Lack of political will to enable e-business;
- Social Challenges;
- Financing the projects;
- Human Resource managerial and technical skills;
- Sustainability of the infrastructure put in place;
- International Governance;
- Support;
- Telecommunications;

To address the challenges the group proposed:

- Change management through
    - Institutional awareness building and process re-engineering;
    - Consumer and society;
- Legal and regulatory function to regulate telecommunications, data protection and computer use.

The group concluded that success required commitment from top management leadership, assistance from politicians, vision and planning.

7.5. Feedback Panel - Comments by Dr Gerald Grant

Dr Gerald Grant said that ideas brought forward by the day's roundtables, cropped up during similar workshops held throughout the past year across the globe. The issues raised imply that political will and leadership is essential for the successful implementation of the e-commerce environment. Hence, seeking the commitment from the influential persons to champion the e-commerce initiatives and triggering a response from the public was to be considered a key success factor.

8. E-Government

The third day of the workshop focused on E-Government. A panel discussed process of assessing readiness for E-Government. This was followed by three presentations on enabling E-Government. Working groups brainstormed the issues and suggested solutions to the challenges and were presented in a feedback panel constituted by working group representatives.

8.1. E-Government

The fifth plenary session on the principal theme of E-Government was announced and chaired by Mr. Henry Alamango, Executive Director COMNET-IT. Mr. Joseph R Grima, Head of Public Service Malta delivered the opening presentation. A panel assessed the readiness for E-Government, based the perspective and experiences of Malta, Botswana and Malaysia.

E-Government in Malta

Mr. J.R Grima, Head of Public Service, Malta, opened the session on E-Government and addressed the subject from a high level view, as to what, why and how, to achieve E-Government making particular references to the Malta experience. He purposely excluded the broader subject of e-governance to concentrate on Government as the leadership of any country, that is duty bound to give the best possible service to its citizens. The basic definition of Government was extended from the core functions such as Defense, Foreign Affairs, Finance and Taxation to other roles assumed by Government over the years, especially in education, health and welfare. The current trend is to privatise or outsource Government services. However, the Government still remained responsible for the quality of such services.

E-Government can revolutionise the delivery of the public service, by providing better quality service to the public. E-Government is an important component of the information society. E-Government in Malta was approached by the broad stages of providing information, interactivity and transactability to the public, over the Internet 24 hours a day. The emphasis is not on cost reduction, but on the provision of a citizen-oriented service. All community sectors were to be targeted to prevent a digital divide. Access to the public is provided at public schools, libraries, call centers, and Local Councils. E-Government services were soon to be extended to M-Government (mobile Government), since the number of mobile phone users exceeds those of the Internet.

In 1990, a Reform Commission was set up, an operations review carried out and the National Information Systems Strategic Plan was formulated. Since then, corporate applications and departmental systems were implemented. A wide area Government network (MAGNET) provides the public sector access to corporate applications, e-mail and the World Wide Web. Recently, cyber legislation was introduced for the purpose of enabling E-Government and E-Government portal was launched. It includes, a payment gateway, e-Europe plus programme and other on-line services.

In October 2000, a white paper was issued seeking a strategic partner to assist in providing a seamless E-Government solution. As a result, a framework of partnership was being finalised with Hewlett-Packard. A recent survey showed, that security was the main problem to allowing public access. Hence the agreement with Hewlett-Packard would include a system for registration and secure personal identification/authentication.

The key players in the initiative were:

- The Ministry of Justice and Local Government that had political ownership of the E-Government;
- The Central Information Management Unit (CIMU), a visionary and standards setting government body;
- The Malta Information Technology and Training Services Ltd (MITTS) the service provider responsible for Government's infrastructure and corporate IT systems and; Information Management Officers, in each Ministry, that were introduced to extend ownership at the particular Ministry level.

The Public service, in Malta, was also being transformed into an information-sharing organisation aimed at providing quality service to the citizen. Appointments of directors were also recently replaced by a performance related system.

Mr. Grima concluded by highlighting the need to strike the correct balance between centralising and decentralising the public service.

8.2. Assessing the readiness for E-Government

Dr Hugo Agius Muscat, Central Information Management (CIMU), Malta, spoke about the Malta experience using the McConnell Model to assess the readiness for E-Government. The model is based on five aspects:

- Connectivity;
- E-Leadership;
- Information Security;
- Human Capital;
- E-Business Climate.

Connectivity is an important aspect, as networks should be easy and affordable to access and use. But business transformation is the main reason for E-Government, not technology. Since 1991 networks were installed in Government Departments. These networks developed into a secure intranet for Government, thanks to the availability of the TCIP protocol. Now the intranet was being extended to the public sector, to provide E-Government to the citizen. MITTS Ltd. was enabling the web services framework by delivery of a more robust technology base over which business transactions could be made.

E-Leadership had to be treated as a national priority. A formal, vision and strategy, document was prepared, by CIMU and the Management Efficiency Unit (MEU), to lay down the key strategic principles and E-Government architecture. For a period of time, the document was released for public consultation, as a White Paper, before being endorsed by cabinet. Without the strong backing from both the Prime Minister and a Cabinet Minister, progress would have been impaired. Hence leadership must be clear in both vision and strategy.

Information security was essential to increase trust in the processing and networking information. A white paper was issued in May 2002 proposing the following legislation eighteen months later:

- Electronic Commerce Act;
- Data Protection Act based on EU directive 95/46;
- Computer misuse. The criminal code was amended to include computer crime;

- To enforce the new legislation a cyber-crime unit was to be set up.

Human Capital extended over a number of organisations. Standards adopted by MITTS Ltd, the technology arm of Government, were also adopted by the private sector. MEU works closely with Ministries to effect changes. CIMU is the central corporate body, coordinating e-governance. An Information Management Officer in each Ministry is responsible for all IT issues within the particular Ministry.

The E-Malta Commission was set up to engender IT literacy and tackle the digital divide.

E-Business climate is the ease with which business can be done and the independent regulation of telecommunications. Hence, the Malta Telecommunications Authority was being set-up as the independent regulator. Another factor to engender e-business was political stability and financial soundness.

Malta had a stable two party system, which gave rise to long periods of stability under both parties. The financial system is fragile, since Malta depends on the wider economy but performed quite well during the past years.

Dr Agius Muscat stated that Malta created the right conditions for E-Government but E-Government is a long-term process, which needed be tackled methodically.

8.3. E-Government in Botswana

Mr. Samuel Serero, Central Computer Bureau, Botswana, gave an overview of the Botswana E-Government initiative. The Botswana Computer Bureau started in 1979 as a unit within the finance department. Its current mandate includes:

- Policies and Strategies;
- Information and Communication Technology;
- Botswana's aspiration of improving the lives of its citizens and their involvement in the decision making process;
- National Development Plans.

The Computer Bureau retains the core functions at the National level, while other functions are decentralised into Ministries. Each Ministry develops and generates its own database.

The introduction of E-Government was intended to assist in the attainment of the Botswana National Vision, which was based on the following seven pillars:

- An Educated, Informed Nation;
- A Prosperous, Productive and Innovative Nation;
- A Compassionate, Just and Caring Nation;
- A Safe and Secure Nation;
- An Open, Democratic and Accountable Nation;
- A Moral and Tolerant Nation;
- A United and Proud Nation.

Every project to be developed was to be aligned to the National vision. The utilisation of ICTs was intended to educate and provide timely Information, to enable the public participate and influence Government's decisions. It is envisaged, that E-Government is an invaluable tool for a prosperous and innovative nation. Botswana was striving to become a regional leader, in the exploitation of IT to achieve National Objectives.

The strategies employed are the development of a well trained IT workforce, improved data communications, improved Government services and the implementation of quality IT systems forming the basis of a reliable E-Government system. The private sector was participating through the outsourcing policy adopted by Government.

Access to information and E-Government services already in place was being extended throughout the country, by the installation of communication nodes including remote rural areas.

The political will was demonstrated, through the continued support of the senior political leaders. The President of Botswana formed a new ministry, “Ministry of Communication, Science and Technology”.

Mr. Serero concluded that to maintain sustainable development Technological, Financial, Human Resource, Legal and Social challenges needed to be addressed.

The critical success factors included:

- A National ICT Forum;
- ICT Culture Diffusion;
- Effective Partnership with all stakeholders.

8.4. Readiness for E-Government in Malaysia

Susie Doraj Raj, Administrative Modernisation and Management Planning Unit, Malaysia, spoke about the readiness for E-Government of Malaysia. As part of the E-Government initiative, the Multimedia Super Corridor was undertaking seven projects, which were:

- Smart schools;
- Multipurpose Cards;
- Telehealth;
- Technopreneur Development;
- R&D Clusters;
- E-Business;
- E-Government.

Political commitment could be seen in the E-Government task force, headed by the Chief Secretary to the Government, answerable directly to the Prime Minister. The E-Government project was subdivided into six sub-projects comprising:

- Electronic Labour Exchange intended to match employees with employers;
- E-Services – currently payment of driving licenses on line;
- E-Procurement – purchasing of inventory for government service;
- Project Monitoring System;
- Human Resource Management Information System;
- Generic Office Environment.

The E-Government readiness was assessed in terms of organisational readiness and individual readiness. At the organisational level, all Government agencies were required to have a website linked to the Malaysian Civil Service Link (MCSL) website (http://mcsl.mampu.gov.my/english/f_government.htm).

The Electronic Public Service (ePS) approximates hundred government services online at present but this figure was increasing. Currently, the majority of online services were not transactional, but consisted of providing information with a facility to download the relevant application forms.

Under a Cabinet directive, the ICT Strategic Plan (ISP) obliged all Government Agencies to formulate their own ICT Strategic Plan for the next five years. The Government allocated funds for the creation of ISPs to develop the ISP for five key agencies. Cyberlaws were already enacted to legalise the new procedures, purposely revised to enable E-Government.

The individual readiness could be achieved by ensuring all citizens have access. The Government and the private sector collaborated to set up community centers, educate and train citizens at all levels and provide ICT training at school. The Government provided incentive and subsidy schemes to assist citizens to connect to the World Wide Web.

The greatest barrier to E-Government was changing the mindset of the top management, especially the older generations. This is a major challenge the Government was now facing.

9. Enabling E-Government – Chair Mr Errol Hewitt

The sixth plenary session consisted of three presentations on Enabling Government, based the experience of Canada, Malta and South Africa.

9.1. Enabling E-Government – Electronic Delivery and Access Channels

Mr. Sunil Geness, Senior Manager, Department for Public Service and Administration (DPSA), South Africa, focused on the electronic delivery and access channels. He raised the issues of accessibility, internal efficiencies and external effectiveness as barriers to e-governance.

Accessibility: South Africa is a large country, where urban centres are better serviced than rural areas. The public service is still bureaucratic and inefficient. Information for citizens outside the country, or foreigners wishing to enter, is very limited and difficult to access.

Internal efficiencies: Government is not citizen centric. Paper-based records existed in large quantities, hence too complex to update. Policies and standards were still lacking. There was no single mechanism for authentication. Lack of inter-operability between departments existed and as a result there was a large-scale duplication of data.

External effectiveness: was hindered by the process driven approach to client service.

Speaking on challenges facing a developing country, the Mr. Geness said that citizens generally had little experience working directly with ICT. Infrastructure in the areas most convenient to citizens was weak. Due to illiteracy and access problems people kept a distance from technology. ICT readiness varied among departments, and other groups. The difficulty in retaining IT staff, often moving to the private sector or to foreign countries, lead to a loss of capacity. Information sharing among organisations was not common. Hence the service was currently slow and fragmented.

The E-Government vision was the creation of a seamless and continuous access to information and services of the South African Government. To address the digital divide Multiple access channels, for all citizens, were to be provided either directly or through intermediaries, using the full range of available and appropriate technology. Focus will be on the needs of the recipient.

South African Government's Gateway initiative was intended to provide a single point of access round the clock to all information and services provided by the Government. The project was to provide e-Public Services (e-PS) offerings to customers based on the Deloitte and Touche Six Steps model:

1. Information provision;
2. Two-way Transaction;
3. Multipurpose portals;
4. Personalised Portals;
5. Clustering of Services;
6. Comprehensive corporate transformations.

Delivery Channels to bring government services to citizens, would include over the counter, call center, Internet, Interactive TV, Mail and Kiosk. These were to be implemented in different stages. Some services could be made available on the Public Service Portal immediately.

The Community will participate and benefit from:

- Public Services;
    - National Government;
    - Provincial Government;
    - Local Government;
- Economic Development Services;
- Private Sector and Commercial Activities;
    - Commercial Services;
    - Civil Society Services;
- Information and Communication Services;
- Education and Skills Development Services;
- Office Services.

The Challenges to the successful implementation of the gateway were:

- Working with third party intermediaries;
- The Digital Divide;
- Buy-in and Employee Resistance;
- Confidentiality and Privacy Issues;
- Technical Standards;
- Tax Issues (affordability);
- Content, Language Accessibility and Updating;
- Security and Authentication Issues;
- Single Window
- Connection to Legacy Systems;
- Inter departmental Coordination;
- Process Redesign.

Where there was no expertise in South Africa strategic partners were to be sought to assist in overcoming the challenges.

9.2. Enabling E-Government – Technology Architecture

Mr. Howie Macumber, Director Technical Services Government Telecommunications and Informatics Services, Canada, focused on Technology Architecture. Mr. Mucumber quoted the Challenge to Government is, “We have a Networked society and an economy and an industrial-age Government” Stephen Goldsmith, Harvard Professor and Presidential Advisor (2001)

The Government On-Line Vision is, “Using information and communication technology to enhance Canadians’ access to improved citizen-centered, integrated services, anytime, anywhere and in the official language of their choice”.

The business driver is access to a secure service, treating Government as an integrated enterprise. Common ‘Look and Feel’ Standards were applied to all department websites. The “No wrong door” is adopted, since the single window is no longer feasible. The objective was that regardless of entry point the goal was to have

the user requirements satisfied, through client centric service delivery with increased efficiency.

The E-Government Initiative or Gov-on–Line spending is 50% on strategic infrastructure and 50% on business transformation, to bring the partner programmes on line. The objective was to have all the commonly used services on line by 2005. A federated infrastructure was defined to provide a common infrastructure for all Government Departments, so that, components were shared Government wide.

Where different departments had common services, these are clustered. The overall Gov-on–Line programme consists of a number of components under:

- Architecture and planning services;
- Chief Information Officer branch, within the treasury board secretariat, which is the central agency providing planning for IT services and funding.

The Secure channel provides infrastructure services to the departments transparent to users. Viewed from a conceptual level, business or individual users would have different access methods to the secure system to be provided with Federal Government on line services. The intension was to broaden the services to Provisional Ministries, Municipal Departments, Non-Profit Agencies and Public Sector Organisations.

The secure channel would allow transactions, to services provided, by more than one department in a seamless manner, as if dealing with just one department. The system was tested with a selection of pathfinder projects and departments to determine the impact of policy constraints, which were more complex on the business side rather than the technical side. The core of the secure channel was the so-called service broker. Departments in Canada are powerful, autonomous and protective of their own accountability, hence achieving central control was difficult and could only be achieved by consensus. The common infrastructure under the secure channel eliminates duplication across departments.

To put the infrastructure in place, a competitive business driven procurement process was adopted. The private sector was asked for the development of a solution based on business requirements. A consortium of nine companies was awarded the build contract. The Secure Channel and its service broker capabilities will enhance, simplify, and encourage the sharing of services to:

- Deliver client centric service;
- Protect citizen privacy;
- Reduce/avoid integration complexities;
- Reduce/avoid technology costs;
- Maintain and reinforce program accountability.

Departments or programs talk only to the Secure Channel service broker. The broker takes care of the technical translation so the department or program can focus on business issues, not on the technology issues of other departments or programs.

9.3. Enabling E-Government – Data and Information Sharing

Mr. Saviour Cachia Manager Data Protection and Architecture, MITTS Ltd, Malta focused on Data and Information Sharing. He stated that E-Government calls for information sharing. The data layer is the key to link the business process among Government Departments. Mr. Cachia presented the Government of Malta's primary

data sharing project, the Common Database (CdB). The scope of the Common Database was to produce a repository for commonly used information, which is in the public domain, to be shared between Government Departments. This initiative presented substantial benefits to the public.

To Implement a common data base strategy, it was important to identify what information is to be shared and to:

- Establish the principles and concepts;
- Determine the controlling authority'
- Identify the data sources / maintainers / "owners";
- Reach Formal Agreement with the "owners";
- Design and build the system.

The major pillars of information are:

- Persons –Owned by the Public Registration
- Addresses – Owned by Planning Authority & Department of Local Councils
- Organisations – Owned by VAT Department
- Person Address Links – Owned by Electoral Office, and the DCR (for persons less than fourteen years of age).

Owner departments must have the requirement to create and maintain the required information, either dictated by the business process or by a legal obligation. The CdB concept is to generate, validate, store and disseminate information. Complex issues arose, when determining the owners of data, authorisation and giving access rights to users and maintaining the data integrity and quality of information. Legal dispute, regarding access rights, may be referred to the Attorney General.

The benefits of the Common Data Base could be summarised as:

- Provides referential source of information;
- Enhances inter-departmental relationships;
- Instigates data consolidation
- Improves data integrity and quality;
- Reduces collection and maintenance costs;
- Information consistency reduces fraud;
- Enables the "One Stop Shopping" concept;
- Serves as the basis for data architecture standards .

To safeguard the rights of individuals, a Data Protection Act has been enacted. In E-Government data architecture, data protection was playing a role in the authentication process.

Mr. Cachia concluded that the Common Data Base was a key component to the successful implementation of E-Government projects.

10. E-Government Roundtables- Chaired by Dr Gerald Grant

Working groups brainstormed the legal, technical, human capital and access issues, challenges and opportunities in e-governance and map out needs an action process. A summary of results of their work follows.

10.1. Deliberations of the Working Group on a Strategic Framework and Integration Challenges – Chaired by Mr. Sunil Geness

A key issue identified by the group was the need for each country to determine a strategic framework, based on the competitive advantage E-Government will bring to the particular country. By evaluating the strengths and weaknesses, a country would be in a better position to turn threats into opportunities. The changes expected from the analyses are in areas classified under:

- Legal Framework;
- E-Readiness;
- Communications and Provision of Information;
- HR Implications;
- Interoperability between departments to integrate the services;
- Standardisation.

To overcome the challenges, it is important to seek the commitment of the politicians, including the Prime Minister. Politicians can be instrumental in driving change; championing the E-Government initiatives, allocation of funds and instilling in others the will to do things. Sustainability is essential to reap the benefits of E-Government. Timeframes are affected by the strategies adopted by the particular country. A country may decide to trail behind other countries in order to make use of proven technologies and lower costs. Timeframes may be constrained due to the time required to build expertise. The cost of hiring expatriate expertise may be prohibitively high, thus aggravating timeframes.

The group suggested, that the challenges may be overcome through:

- Education & Training;
    - Building local expertise at all levels of the educational system, ranging from the primary education to post graduate technical and managerial training;
    - Educating the general public through the media;
    - Changing the “silo mentality” of bureaucratic government departments, into an information sharing knowledge driven organisation;
- Legal & Political;
    - Adapt the legal framework to enable E-Government on a local, regional and international base. Harmonising country laws to other countries, were possible, reduces complexity at operational levels;
    - For E-Government to succeed, it was important to gain commitment from the politicians. The latter may be convinced if the benefits of harnessing ICTs to join the global community are made clear. Comparative analyses to other advanced countries may reveal the risks of not harnessing ICTs;
- Technical;
    - Provision of standardised infrastructure;

    - Supply of hardware necessary to provide access to the public;
- Cross Sectoral Linkages;
    - E-Government will enable transactions, within Government and between Government and individual citizens or private organisations.

The critical success factors include:

- The political will to champion and fund the E-Government projects;
- The political will to provide the legal framework, technical infrastructure and change management;
- Use of benchmarking as a tool to compare progress to other nations. Court case statistics, audit trails and citizen surveys can also be used to monitor progress.

10.2. Deliberations of the Working Group on Human Resources – Chaired by Mr Errol Hewitt

The group identified the need for a National Plan to cater for Human Resources, in terms of E-Government requirements. In order to reach this objective, a nation-wide skills survey was required. Recruitment and retention of staff with the right skills can be attained if the right incentives, remuneration packages and efforts made to assist in job satisfaction, were in place. The challenges are more complex in a competitive environment. However, the latter is essential for more productivity. Appropriate training can be provided to bridge the gap, that exists between available skills and additional skills requirements identified under the national plan. The private sector can play a significant role in the national Plan. Foreign expertise can be hired to aid the process, especially in the initial stages.

The project cannot succeed unless championed by high-ranking politicians. To secure commitment, the politicians have to be convinced of the benefits and potential of the project in improving the life of the citizens. Political commitment is a valuable source of propaganda, which can affect the general public's attitude to change and acceptance of the need to adapt and exploit new requirements and opportunities.

The group recommended that the challenges be addressed through:

- Education & Training;
    - Such programmes should include the training of trainers, specialised seminars, fellowships and computer-base training materials and inclusion in national curricula at schools and universities;
- Social Framework;
    - The social framework should address the language barriers, attitudes and mindsets of public and private officials, who are potential promoters and implementers of the E-Government initiative;
- Cross Sectoral linkages;
    - Legislation can be introduced to update the law enforcing current procedures and enact the proposed laws on new procedures needed to conduct E-Government.

The group concluded that the critical success factors included:

- Government commitment to change and promotion of E-Government;
- Consumer trust and confidence in the new E-Government processes;
- Investor confidence in the new way of doing business.

10.3. Deliberations of the Working Group on Infrastructure – Chaired by Mr Howie Macumber

The group identified, the need for planning with the aim of defining the type of infrastructure necessary to meet the requirements of the E-Governments initiatives. An evaluation of the current technology is essential to determine the gap in terms of budgetary requirements, resource allocation, skills required and human resource allocation within the planned time frame. The planning should include the additional demand for electricity supply, telecommunications, hardware, human resource training and education.

The planning process should yield a clear action plan leading to the efficient and timely execution of the project to predetermined operational standards. Additional benefits include transparency, higher quality at affordable costs and easier accessibility to service.

The challenges to succeed in providing the infrastructure, include gaining the political will to champion and where necessary finance the initiative, assist in countering resistance to change, and providing the legal structure to enable E-Government.

The group recommended, that the challenges are addressed through:

- Training and Education;
    - Provide computer aided training applications;
    - Identify training methods and opportunities such as seminars, workshops, etc;
    - Inclusion of relevant subject matter in national curricula at schools and universities awarding proficiency certification where applicable;
    - Provide community access centres for participation with “hands on” opportunities;
    - Conduct media campaigns;
- Technical standards;
    - Develop, promote and enforce standards;
    - Provide incentives versus coercion to encourage conformance;
    - Create role models;
    - Monitor compliance;
    - Demonstrate benefits of use;
- Political Commitment;
    - Obtain the commitment of top political figures to provide a major contribution to the success of an E-Government project. Politicians can be convinced if the benefits to the citizens, employment opportunities and value for money can be justified.

The group concluded that the critical success factors include:

- Embarking on affordable and sustainable projects, if necessary in incremental stages and piloting projects as necessary.
- Seeking win-win situations for all stakeholders;
- Creating the right environment for E-Government;
- Engaging the right skills and commitment.

10.4. Deliberations of the Working Group on Citizen Readiness – Chaired by Dr. Gerald Grant

The group identified as a key issue, the need to assess the accessibility of the new services to the various sectors of the population, which may be hindered through literacy, language barriers and cultural constraints, such as, unwillingness to share information between different groups or public organisations. Other technical barriers may be cost, speed, and ease of access, availability and relevance of service to the intended users.

Hence, the challenges faced by a nation to give the opportunity to all its citizens to reach the benefit of the E-Government should include:

- Ease of access;
- Awareness building;
- Reach by all sectors of the population;
- Adequate budgets to make the service available.

The group recommended, that the challenges were addressed through:

- Training and Education;
    - Provide multi-lingual part-time and evening courses aimed at the adult population;
    - Provide user guides and on-line assistance;
    - Inclusion relevant subject matter in national curricula at schools and universities;
- Technical Infrastructure;
    - Provide access through PC's purposely installed at Libraries, Post Offices, Banks and Government Offices;
    - Install robust kiosks in public places based on surveys aimed at determining intended usage;
    - If necessary provide subsidies for hardware and access costs;
    - Ensure design is user friendly hardware and software;
- Political Commitment;
    - The commitment of top political figures to provide a major contribution to the success of an E-Government project. Politicians can be convinced if the benefits and value for money can be justified. Benchmarking other countries and pilot projects can help the decision taking process to embark on large-scale innovative projects.
- Cultural/Social Changes
    - Promotion is a valuable tool to reach and assist the citizen to accept change. Different social groups even in remote areas can be reached by providing focused and customised services in multiple languages based on the level of education of the intended group. Programmes can be designed in a way to improve the literacy of the intended user-groups.

The group concluded that measurement of success is crucial for the continued success of the E-Government projects. Hence, periodical statistical observations were essential to measure the popularity of the service. This may include:

- Number of Users of each service;
- Duration of sessions;
- Number of services utilised per user;
- Reduction of over the counter services

- Telephone services at call centres.

11. E-Business and E-Government: From Concept to Realisation- Chair: Mr. Roy Sunstrum

The fourth day of the workshop focused on the steps required to achieve E-Business and E-Government. A panel discussed the implementation issue. A case study highlighted the benefits of managing change in Government. The way forward was then discussed followed by concluding remarks.

11.1. Towards an Information Society

Mr. Anthony Debono, CEO, Maltacom p.l.c., said that new communications technologies are driving new products and new ways of conducting business, leading towards a Global Information Society. Social life has become dependent on access to ICTs. Hence ICTs can be a threat to countries or communities without access to ICTs, by depriving them of the tremendous development potential enjoyed by the Information Society.

The United Nations have taken an unprecedented initiative to hold a world summit on the Information Society to address the issue by:

- Developing a common vision and understanding of the Information Society;
- Drawing up a strategic plan of action for concerted development, primarily to reduce the Digital Divide.

Participation is intended for executive heads of international and regional institutions, NGOs, and members of the private and public sectors.

A series of Preparatory Committees would define the Agenda and the themes of the summit. The main areas to be addressed were:

- Vision of the Information Society;
- Access and effective use of ICTs to world inhabitants and;
- Applications of ICTs to help the common goals of humanity.

Key Stake holders could contribute by actively participating in the preparatory process towards:

- Stimulating multi-actor cooperation;
- Submitting substantive inputs;
- Organising meetings;
- Formulating operational proposals.

To facilitate this event, a High Level Summit Organising Committee (HLSOC) had been established under the patronage of the UN Secretary General and Chairman of the United Nations System Chief Executive Board for Coordination (CEB).

The HLSOC is composed of:

- Representatives of the United Nations Secretary General;
- Executive Heads of the following UN Specialised Agencies:
    - FAO, IAEA, ICAO, ILO, IMO, ITU,
    - UNCTAD, UNDP, UNEP, UNESCO, UNHCR, UNIDO, UPU, WHO, WIPO, WMO;

- Director General of the WTO;
- Executive Director of UNITAR;
- Executive Secretaries of the UN Regional Economic Commissions;
- The president of the World Bank;

The Secretary General of the ITU serves as Chairman of HLSOC. The HLSOC is tasked to coordinate the efforts of the UN family in the preparation, organisation, and holding of the World Summit. The HLSOC reports directly to the UN System Coordination Board (CEB) and oversees the work of the Executive Secretariat

The first Preparatory Committee identified, in a preliminary manner, the following general set of principles to guide the preparatory work and the Summit:

- The Preparatory Committee and the Summit should be development-oriented, aimed at extending the benefits of the Information Society to all and bridging the digital divide;
- The need to find a shared understanding of and to raise awareness of:
    - The information society;
    - How the challenges of the digital divide can be met;
- The summit should consider, in a balanced manner, infrastructure and content issues;
- Preservation of linguistic diversity and cultural identity should be priority;
- Ethical values should be considered an essential component;
- Previous work on relevant issues should serve as a basis for future work;
- A spirit of international co-operation should prevail;
- ICTs are a tool for achieving economic and social goals, such as those stated in the UN Millennium Declaration, and not an end in itself;
- The importance of universal and inclusive access to the Information Society;
- There is a need for broad-based partnerships among stakeholders;
- The importance of communities with full participation of women, youth, indigenous peoples and the disabled.

Mr. Debono suggested that the audience to considered his recommendation and seek authorisation, through the appropriate channels, to devise a modus operandi to serve as the vehicle promoting the Commonwealth stand at the World Summit

11.2. Realising the Benefits

Mr. Robert Silver, Consultant, Management Efficiency Unit, Malta, shared a reflection on one of the strategic mechanisms introduced in Malta, by explaining the role of the Management Efficiency Unit (MEU) in supporting the determination of the country to bring E-Government to the people. MEU was established in 1990 by the Management System Unit Limited and in 1996 was incorporated in the Office of the Prime Minister, to provide in-house Management Consultants to the Government.

MEU's mission is, "to facilitate the improvement of Government Service". The Unit assists public officers in providing service to the public. MEU supports Government agenda, including bringing E-Government to the people of Malta. MEU operating principles are:

- Working with the client;
- Quality control at all stages of the project and;
- On-going staff development.

MEU is an in-house developed unit made possible by formal training, handholding and on-the-job training. MEU promotes staff to consultants after proving themselves with an intensive load of consultancy work in general management, human resource management, financial management and information technology.

MEU operates with a project management methodology. Hence, when a request is received from a Ministry or a public sector organisation, MEU assigns a staff member as project manager. Following discussion and research with client and senior staff members, the project manger scopes the project. The scooping involves identification of the broad issues, and the development of a sense of texture of the organisation and its culture. The project manager then prepares a project brief, which includes clear terms of reference, deliverables, delivery dates, persons assigned to the project, the person bearing responsibility from the client side and cost.

To avoid entering into over ambitious targets beyond the capacity of the unit the project is reviewed by an MEU board. The project is again reviewed after the project team has identified the issues clearly and has formulated its proposals as how the issues should be resolved. The proposals are put forward following brainstorming and guiding sessions, aimed at identifying issues that need to be resolved, to make the project successful. The final review is for the logic flow, grammar and MEU house style. This process is of great benefit to junior staff. MEU quality standards are at par with international scales.

Under the direction of CIMU and with input from MITTS Ltd, the MEU teams drew up the e–vision strategy paper. The E-Government strategy document was issued as a Government white paper. MEU was involved in a joint team effort with CIMU, the Ministry of Justice and Local Government, with the brief to design and implement a Communications Strategy for E-Government. MEU is involved in surveying the business community and the general population, to understand their service requirements and their concerns, in use of computers to transact services. An MEU team was involved in drafting the legal framework to enable e-commerce, Data Protection, and to guard against Computer Misuse.

MEU is actively working in backroom operations to ensure processes keep up with the pace of technology. It is difficult to ask people to correct their own processes. MEU is enabling the establishment of one-stop shops to provide people with rapid services when dealing with Government.

During the discussion that followed, Mr. Silver comments, that the benefits that Malta has gained from this approach are a rich skills base to serve the immediate and long-term interest. Also staff costs are much lower. This was achieved through skills transfer, training, staff development and determination. The process of participating with expatriate consultants has brought local people actual confidence. MEU ensures that foreign consultants, when appointed, are up to MEU standards. The hosting country should be allowed to decide whether a consultant sent as technical assistance is acceptable to its needs and expectations. The consultant should be treated as a project with terms of reference, milestones and periodically reviewed to check on deliverables.

11.3. Panel: Implementing E-Business and E-Government-

Mr. Rory Power
Mr. Alan Alden
Mr. Sunil Geness
Mr. Anthony Debono

The discussion focused on the implementation of structures, for the maintenance of sustainable development and continuity, despite any changes that may occur. The following are a few points from the discussion.

Countries should develop a three to five year plan aimed at attaining E-Government, which would be agreed across the political divide in a country. The plan should take into consideration controversial issues and resource availability over the planning period. Hence, the project will have more chances to be successful, even if there is a change of Government, especially in countries, where there is social and economical instability. The plan can be developed with the aid of an outside source, another Government Agency local or foreign, or through consultation on an international level. Plans provide the direction a country is heading to thus exposing business opportunities. Hence sectoral plans attract investors. International institutions may be providing opportunities worth exploiting. There is also very importantly a better chance of getting funding from institutions by forwarding a well drawn up plan.

For a plan to succeed, the key is gaining commitment from politicians, even at Prime Minister level, followed by permanent secretaries and directors, who should be well briefed to ensure continuity especially when contracts of service terminate at different stages. Representatives at director level, policy makers and decision takers even at technical level are an asset, to the process of developing and implementing a legal and regulatory framework. Legal frameworks should not impede but enable investors to make the necessary investments to create an e-commerce environment worldwide. Legal changes are difficult to make overnight. Consistency is essential in order not to waste effort and money on short-lived plans. None of the political parties want to have the same agenda, but it helps if the overall trust and objective is to achieve E-Government. Political consensus may be driven by sectors, the idea is to harness sectors and use them, even if the opposition leaders are involved but levers can also be international organisations, conferences, summits etc to reach political consensus. For the plan to succeed, it is essential to create a high expectation, general awareness of citizens, through communication, marketing, and branding. People can push for change, when their expectations and awareness are raised; by making them realise the benefits. Governments generally try to gain citizen support by satisfying their demands. Training has to be a priority on the plan.

Vision, Access and Applications are three issues to be addressed for the successful implementation of e-commerce. Affordability is a predominant critical success factor.
Usually, external pressures come from other countries. The UN, the World Trade Organisation and World Customs Organisation participate with each other to reach common aims. Support and pressure from these organisations can influence countries in a positive way.

To be able to use infrastructure efficiently and economically, private sector demand is essential. The way to obtain consensus and continuity is by creating the right environment. Committees can be used but, unless the environment suites the sectors participation will be lacking.

When barcode technology was introduced in South Africa, supermarkets demanded their suppliers to put on barcode tags on the products, to be able to use the system in the supermarkets. The retail sector around the world applied the same tactics.

People in the private sector, who had the power, applied pressure to bring about the intended changes. Hence, people in the private sector can help. Through pressure the suppliers of barcodes, have introduced e-commerce in their particular sector. The

banking community too, applied a lot of pressure on countries and corporations, to develop e-business solutions because it was of financial benefit to them. So there are pressures and mechanisms, by which, the private sector get their own systems. However, the infrastructure must be available to use.

Other sectors have to be taken into consideration particularly NGOs, who play an important role in social development, especially through contacts and assistance from other foreign NGOs. NGOs utilise the word of mouth as a lever to interact with lower the strata, and build critical mass. Unions can be very militant, hence winning support of the Unions is important, to assist in implementation and harmonisation. Speaking of government to society on-line interactions, in many developing countries, the idea of information society has been generated particularly by NGOs, Unions and other organisations.

When the public is requested to comment on the e-commerce agenda the party in power is compelled to address the agenda. People generally respond to convenience and time saving services. When citizens realise the benefits of ICTs quick wins can be made by the Government. A project can be phased and prioritized by having a good strategy. It is important to deliver the most essential services. then increase the services over a period of time.By implementing E-Government, one negative impact for the Government sector is loosing revenue through loss of stamp duty. To break even the costs have to be borne by the customer. Over a period of time the Government may provide the seed money for the provision of a gateway. Initially there may be loss in Government investment, but in the long run, the benefits will outweigh revenues lost.

One of the advantages of the Internet is speed and lower costs, two motivating factors for the citizens to use the E-Government service. By putting services on-line, rather than reducing the number of staff, as normally, assumed, the end result is that the skills requirement of the existing staff had to be upgraded.

Chargeable services on-line are possible through more complex ICTs to provide the required security. These additional costs may render the project not economically viable, for some countries, unless given for free. When private individuals purchase over the Internet, the concept of paying taxes such as VAT, is a political issue not yet concluded in Europe. Each country will need to decide unilaterally, what needs to be paid on line and whether to pay at the point of entry or on delivery. The latter is being adopted in Europe. At the international level it has been accepted not to charge for the services on-line but pay on delivery at the point of delivery.

ICT is a tool to reach and provide services to otherwise unreachable communities. At planning level, detailed considerations have to be made due to increases in the cost of service, which may hinder a successful project. ICTs demand will increase due to technological factors such as bandwidth. Services come on board at different rates. The Monitoring has to be an integral part from the start of the planning stage, through the determining of milestones to provide feedback. With the plan and political will in place, it is difficult to execute the vision even with task force and committees in place. Incentives and sanctions have to be applied even if it is just recognition. Knowledge sharing encourages benchmarking other countries with similar resources and features. Implementation of a strategic framework cannot happen overnight. Time frames must be realistic. Making the e-business, e-commerce, the Internet inclusive through the educational system is very important. The introduction of an ICT model in the education system can be a great achievement. Internet discussion groups can be a means of continuously sharing ideas.

12. E-Business and E-Government: The Way forward

The final plenary session was a discussion on the way forward between the following participants:

Mr. Claudio Grech, Secretary E-Malta Commission
David Spiteri Gingell, CEO MITTS
Dr M Yusuf Bangladesh, Ministry of Science and ICT, Bangladesh
Dr B Bin Jani, Economic Planning Unit, Dept. of the Prime Minister, Malaysia
Sunil Geness, DPSA, South Africa

Mr. Grech said the Challenges to e-business and E-Government are:

- Connectivity;
- Accessibility for all citizens;
- Suitable Digital Content.

Following a successful solution to the first two challenges, the public and private organisations were faced with the provision of the digital content. Governments had to explore all possible areas to make everyone take up the e-applications. Currently a new challenge is to extend the digital content from Internet to other media, such as, the m-government initiative through mobile telephony. Kiosk, service call centers, interactive TV and other media must be explored, since the take up through the PC will never be high.

Through E-Government, e-democracy should be engendered by actual action versus rhetoric. Governments have to become more open and provide more information about their operations, performance structure and citizen participation. The latter can be divided into e-voting and citizen participation between elections. That is how various levels of Government can interact with their constituencies with this new medium, to ensure the objectives of the citizens are met by the incumbent administrations.

E-Government should be translated into a real e-business tool. Efficiency gains have to be realised through the implementation of E-Government services. The Maltese experience shows, that there was a strong drive for the implementation of such services. However, this was the first step hence, focus on realising efficiency gains by integrating the backend processes of the public service departments was overlooked. E-Government is a means by which the public service can do much more at a much lower cost.

Governments have to strive continuously to address the problem of the traditional digital divide. New technology can create new digital divides. For example broadband technologies are not suitable for the traditional landlines leading to a divide within a divide. Government should address these issues.

Mr. Spiteri Gingell said e-business is more focused towards the private enterprise, integrating the supply chain, reducing inventory management and stock, shortening time to market, extending market reach etc. E-Government is the way public service can transform its services to the target audience of the local communities, business communities and individual citizens. When designing the E-Government strategy, the common understanding was, that improved public service delivery could only be attained through technology. The end deliverables could only be achieved through a

focused, coherent and consistent strategy, without which, there was a risk of taking a multitude of E-Government activities each having a different type of sponsor, each stemming from a different facet of Government, whether it is the core public service itself or public enterprises. The real benefit of seamless Government would not have been achieved, unless a citizen–centered approach was adopted, routing the services through one window. Implementation is the major issue. E-Government is about change.

The technology has matured to the extent that it has become part of the Government institutions. The organisations dynamic may need redesign to achieve successful E-Government. This is the major challenge.

Speaking on the Maltese experience, Mr. Spiteri Gingell said that technology is seen as the solution to the change aspect, which can have the impact of successful E-Government as something that is on the buy. Anther major issue is financing. Although a small island, Malta has the needs of a sovereign state. A small island state brings its own advantages. Distances are relatively short, hence infrastructure not complex. Human Resources is a problem, information technologist are not found at the spread that is required, hence the current complex task of implementing E-Government is at risk for want of the necessary resources. The budget allocated for ICT is 1.7% of the total expenditure. The back-end, middle-ware, security mechanisms, have to be in place in the architectural core in a similar setup of an E-Government architecture in a bigger country. The initiative has to be sustainable. A constant fragmentation of the budget engenders lone ranger initiatives leading to duplication of resources, which is not affordable when resources are scarce. The retrofitting of lone ranger operations is expensive. Hence a centralised budget for E-Government was opted for.

Participation from the public sector is being sought to increase the available fund. Availability of funds is a key success factor to achieve E-Government. The Government issued a tender for a strategic partner for a seven year period. A hybrid financing agreement is being negotiated, where each service should have a risk and award model to be shared between Government and the Consortium. Applications must achieve value for money, based on criteria that, still needs to be established. The investment will be paid by the value for money emanating from the benefits achieved and if not achieved the risk is on the consortium. Direct investment by either entity is expected.

Mr. Spiteri Gingell concluded by saying that seamless E-Government is attained, if standards of interoperability are in place, thus minimising the risk of expensive retrofitting.

Dr. Muhammad abu Yusuf, shared his opinions and experience of this workshop, stating that in this age of globalisation, one market condition for developing countries is crucial as the open market economy exposed every country to competition. If the product is not improved export will be difficult. Hence, e-commerce must be included within the framework of ICT policy. The environment must include a corporate ICT policy technical infrastructure, encryption standards, and the legal framework. Each Government should allocate funds for ICT development. Bangladesh has an ICT taskforce, with an allocation of approximately fifteen million US dollars, to advance the ICT sector. The Tender and Technology committees manage procurement. However, too much bureaucracy between committees exists, resulting in too many delays to deliver. Ideally, procedures should be modified to reduce the procurement cycle to one week. Satellite reception is not allowed, except for military purposes. E-Government is not achievable without an ICT policy in each Ministry. Benchmarks

other countries may assist in acting faster. If there is commitment at high Political levels, funds will be allocated and mindsets will be changed.

Dr Baharom Yani, suggested that ICT was part and parcel of E-Government. This is the way forward. Many countries were facing the same problem, that is, shortage of funds. Some countries may require funding from a foreign donor. Malaysia became the first Asian country to get funds from Japan. Malaysia needs support. Due to lack of funds, implementing any tool related to E-Government was difficult. Every citizen should get the opportunity to access Internet, to get connected with business or Government offices. In Malaysia, there is no problem with Government, who provides every facility. Business can cater for themselves. Rural groups may be reached by providing facilities at the community centers, by supplying expensive computers or convince multinational companies to donate PCs, to fulfill the social obligation to the country. E-Business is like a jigsaw puzzle; the last piece can be put to fit the whole exercise. It was important to have a national framework. The approach used in Malaysia was based on three important items:

1) People,
    a. Mindset
    b. Awareness
    c. Training etc
2) Application and
    a. Portal
    b. E-comm Application
3) Infrastructure
    a. Connectivity
    b. Electricity
    c. Fiber optic
    d. CDMA/USAT

All three stages had to be concurrent. All leaders in the Government sector had to back the project. The majority, of the population, became part of the e-commerce society. The E-Government flagship is in the pilot project stages.

Mr. Sunil Geness said that recent events that had an impact on the future of E-Government were:

- The United Nations Millennium declaration regarding good governance utilising a new tool to deliver the service;
- The multi-consensus meeting for financial issues in developing countries raised the issue of strong policies in terms of financial models;
- The third United Nations conference of developing countries raised the need for developing countries to be supported in various forms;
- The UNICT task force and E-Government for development workshop;
- The UN summit for information society.

These were footprints, which could be utilised to build on when looking for the way forward. Mr. Geness based his views on initiatives, which have already taken place, suggesting that delegates raise the creation of E-Asia in their forums. E-Europe already exists. In Africa the E-Africa initiative is being established to create a framework for e-governance with the cooperation of the United Nations. Over and above these frameworks, strong country strategies were required.

Regarding implementation a few success factors which, needed addressing include:

- The issue of finance, transactional advisors, who come with a range of skills financial may be utilised;
- Human Resource; adopt comprehensive policies from recruitment to exit management;
- The issue of the technical framework; avoid committing mistakes by benchmarking with other countries;
- Legal frameworks need to be put in place at the outset;
- The issue of citizen awareness access channels according to the idiosyncrasies of your country. Utilise the architecture & Infrastructure that is already in place;
- Interoperability, adopt minimum interoperability standards so that all government departments conform to those standards. In that way expenditure is reduced;
- Public/private sector partnerships are viable;

12.1. Concluding remarks

Mr. Errol Hewitt drew together a number of conclusions:

- A central authority is required to drive the ICT effort. Consistent leadership was necessary for serious planning and to secure public buy-in to implement the technology required for E-Government;
- Budgets may be very limited hence, it was important to approach ICTs in an orderly and structured way to maximise return on investment. A proper structured approach was required to do the utmost with what is available;
- Technology is an important factor, but should not lead the way. Therefore, it is important to have architecture in terms of planning, laying out an outline, which best suites the technologist;
- One of the practical things is that, the presentations represent valuable research done by the speakers. As servants of our people it is important to make the best use of the documents given and the experiences received.

Appendix A - Workshop Programme

Monday 22nd

SESSION 1: DIGITAL DIVIDE AND E-COMMERCE

1. Opening Statements: Malta Government
Commonwealth Secretariat

2. Keynote Address

3. Digital divide and underdevelopment:

SESSION 2: E-COMMERCE

4. ICT, E-Commerce and Development

SESSION 3: E-COMMERCE CASE STUDIES

5. E-Commerce Country Case Studies

- Developing (Bangladesh)
- Emerging (Malaysia)
- Developed (Ireland)

6. Panel: Digital Divide and E-Commerce

(Day's Speakers)

Tuesday 23rd

SESSION 1: E-COMMERCE AND E-BUSINESS

1. Opening Presentation

2. E-Commerce Approaches

- B2B: Business to Business
- B2G: Business to Government
- B2C: Business to Consumer

SESSION 2: E-COMMERCE AND E-BUSINESS CHALLENGES

3. Panel: Challenges to E-Commerce

- Legal
- Technical
- Human

- Access/Awareness

SESSION 3: ROUNDTABLES

4. Roundtables: E-Commerce Challenges

- Legal
- Technical
- Human
- Access

5. Feedback Panel

- constituted by Roundtable Chairpersons

Wednesday 24th

SESSION 1: E-GOVERNMENT

1. Opening Presentation

2. Panel: Assessing the Readiness for E-Govt.

SESSION 2: ENABLING E-GOVT.

- TechnologyArchitecture
- Enterprise application and Integration
- Electronic Delivery and Access Channels

SESSION 3: E-GOVERNMENT ROUNDTABLES

- Strategic Framework
- Integration Challenges
- Infrastructure
- Impact on HR
- Citizen Readiness

Thursday 25th

SESSION 1: E-BUSINESS: FROM CONCEPT TO REALISATION

1. Opening Presentation: Realising the benefits of E-business and E-Govt:

2. Panel: Implementing E-Business and E-Govt.

SESSION 2: REALISING THE BENEFITS: CASE STUDIES

SESSION 3: E-BUSINESS AND E-GOV: THE WAY FORWARD (PANEL)

Concluding Remarks

Appendix B - Reference Documents

- Address by the Hon. Dr Austin Gatt, Minister of Justice & Local Government, Malta
- Welcome Address by Mr Joseph R. Grima, Head of Public Service, Malta
- Agius Muscat Dr Hugo,"Assessing Readiness for E-Government Malta" Central Information Management Unit, Malta
- Alden Mr Alan, "From Digital Divide to E-Commerce", Malta
- Cachia Mr Saviour," Common Database (CDB)" MITTS, Malta
- Debono Mr. Anthony, * Towards an Information Society" CEO, Malta
- Dorai Raj Ms Susie, "Assessing Readiness for E-Government Malaysia", Administrative Modernisation & Management Planning Unit, Malaysia
- Frendo Dr Michael, "The Legal Environment of E-Business", .M.P. Malta
- Geness Mr Sunil, "Electronic Delivery and Access Channels", DPSA, South Africa
- Grant Dr Gerald, "Challenges to E-Commerce - Access/Awareness", Canada
- Hewitt Mr. Errol, "Human Capital Challenges to E-Commerce CEO, Central IT Office, Jamaica
- Jani Dr Baharom bin ," E-Commerce Development in-Malaysia"; Economic Planning, Prime Ministers Office, Malaysia
- Macumber Mr Howie " Enabling E-Government Technology Architecture ", Telecomms & Informatics Services, Canada
- Mr Antoine Gouder," E-Commerce in Malta – Terranet Approach B2C", E-Shore, Malta
- Mr Damian Xuereb, "E-Commerce Approaches B2G" MITTS, Malta
- Power Mr Rory, "Ireland Celtic Tiger? Now What?"; Republic of Ireland
- Serero Mr Samuel,"E-Government in Botswana" Central Computer Bureau, Botswana
- Silver Mr Robert,"The Management Efficiency Unit and its Operations" MEU, Malta
- Sunstrum Mr. Roy,"B2 B e-Business Realising the True Value B2B", Canada
- Vella Mr Godfrey,"Telecommunications Policy and the Digital Divide"
- Xuereb Mr. Damian, "Challenges to E-Commerce – Technical Considerations", Malta
- Yusuf Dr Muhammed Abu, "E-Commerce Development inBangladesh", Ministry of Science & Technology, Bangladesh

Appendix C - Speakers Biographies

Mr Henry Alamango
Henry Alamango is the Executive Director of the Commonwealth Network of Information Technology for Development (COMNET-IT), an international foundation committed to the promotion of good policy and practice in national and sectoral informatics strategies. Henry's thirty two years in IT have spanned a number of systems development and leadership roles, including:

- Nine years development and implementation of major public sector systems;
- Eight years development and introduction of production control systems in a high-tech manufacturing environment;
- Management of KPMG's local consultancy and software activity for four years;
- (1990 – 1996) a key role in Malta's public sector reform programme, co-ordinating change programmes across all ministries with a strong information systems component.

Dr Baharom bin bin Jani
Dr Baharom Jani currently holds the position of Principal Assistant Director in the Economic Planning Unit of the Prime Minister's Department Malaysia. His responsibilities include planning and implementation of all programmes and projects related to information and communications technology (ICT). Other positions held by Dr Jani include that of Senior Programme Coordinator with the National Institute of Public Administration, Intan. Here Dr Jani organised and lectured courses in various subject areas including public policy, project planning, urban, rural and local Government planning as well as other generic courses. Dr Baharom Jani holds a doctorate (PH.D) in economics which he obtained from Nagoya University in Japan between October 1995 and March 1999.

Mr Anthony De Bono
Mr De Bono currently holds the positions of General Manager, International Relations, at Maltacom p.l.c., acts as an ICT International Consultant and is Special Envoy for the ITU in Malta's Ministry of Economic Services. Concurrently he is also Vice Chairman of the European Telecom Network Operators (ETNO), personal consultant to the Chairman of Maltacom p.l.c. and Worldwide Communications; and Deputy Chairman of Maltapost.

Between 1998 and 1999, Mr De Bono was Managing Director of the Highly successful Video on Line company (an Internet Service Provider), which merged and then was sold entirely to the National Cable Television Company (Melita Cable TV). Before establishing his own Management Consultancy firm, Anthony De Bono and Associates, in 1997, Mr De Bono was the Chief Executive Officer of the Telemalta Corporation (Malta's National Telecommunications Service Provider).

Before joining the private sector, Mr De Bono travelled widely on Special trade and Diplomatic Missions both as member as well as Head of delegation with the Malta Government Civil Service. Whilst with the service, Mr De Bono worked as Assistant Head of Department and Private Secretary to the Minister of Health and Environment, Administrative Officer and Private Secretary to the Minister of Industry, Fisheries and Agriculture, Administrative Officer and Private Secretary to the Minister of Health, Higher Executive Officer and Private Secretary to the Minister of Development following two years of general employment in the service.

Mr De Bono Received his post-graduate in Business Management (University of Malta and Henley Management College/Brunel University, UK) in 1993.he is a fellow of the Telecommunications Executive Management Institute of Canada (TEMIC), Chairman of the European and Arab States Alumni and Fellow of the Kalmar Institute of Telecommunications in Sweden.

Dr Michael Frendo LLD LLM (Exon)
Gatt Frendo Tufigno, Advocates' Managing Partner, Dr Michael Frendo, is a leading lawyer in ICT law in Malta. He heads the ICT legal practice of Gatt Frendo Tufigno, a general legal practice (www.gftlex.com) with special areas of focus including ICT law, Gaming law, European law, (www.europadvise.com), and Financial Services. Michael Frendo is a former Minister of Telecommunications responsible for the introduction of the first Internet Service Provider licences and for the liberalisation of the broadcasting sector in Malta. He has spoken at various international conferences on ICT law, and is the author of a number of publications and books. Michael Frendo is also a (p/t) Senior Lecturer in Telecommunications law, European Law and Private International Law at the University of Malta and a visiting lecturer in ICT law for the University of Grenoble's Masters programme in E-business. Dr Michael Frendo is also a member of the European Convention on the Future of Europe currently meeting in Brussels. Michael Frendo can be contacted at: Gatt Frendo Tufigno, Advocates 66 Old Bakery Street, Valletta VLT09, Malta 0035621242713, on fax: 0035621242714 and on e-mail: mfrendo@gftlex.com.

Mr David Spiteri Gingell
In May 2000, Mr David Spiteri Gingell has been appointed as Chief Executive Officer (CEO) of the Malta Information Technology and Training Services Ltd (MITTS Ltd). In February 2002, David Spiteri Gingell was appointed as Chief Information Management Officer (CIMO) of the Central Information Management Unit (CIMU), whilst holding his former position of CEO MITTS Ltd.

In 1994 – 1999 David Spiteri Gingell held the position of Director, Consultancy Division at the Management Systems Unit Ltd and Manager, Management Efficiency Unit wherein he was responsible for the articulation of the 1999 – 2001 IS Strategic Plan for the Public Service. Between 1999 and 2000 he held the position of CIO for the Malta Public Service with the responsibility of setting up the Central Information Management Unit and taking forward the key initiatives recommended in the IS Strategic Plan.

David Spiteri Gingell was the Chairman of the Drafting Committee of the Cyber legislation. Between 1997 and 2000 David held the position of board director of the Foundation for Medical Services. Between 2000 and 2001, David held the position of Council Member of the Malta Council for Science and Technology. Between 2001 and 2002, David held the position of Commissioner on the eMalta Commission.

In February 2002, David was appointed by the Minister for Justice and Local Government as Chief Negotiator on the discussions with the preferred consortium in relation to the strategic partnership for e-Government initiative.

Between 1994 and to date, David carried out a number of ad hoc consultancy work for COMNET-IT and the Commonwealth Secretariat respectively.

David holds a BA (Admin) Public Administration from the University of Malta, and an MPA with distinction from the University of Liverpool, UK and holds a number of memberships of professional institutes. David also holds the Decoration of Member of the Order of the Terra Mariana bestowed to him by the Republic of Estonia.

Dr Gerald Grant

Dr Grant is Assistant Professor of Information Systems at the Eric Sprott School of Business, Carleton University in Ottawa, Canada. He is co-ordinator of the Information Systems Area and serves as Chair of the Enterprise Systems/e-Business Committee in the School. He previously taught at McGill University, Montreal, Canada and in the Department of Computer Science and Information Systems at Brunel University, Uxbridge, United Kingdom. He also served as Vice-Principal for Financial Administration at Solusi University, Bulawayo, Zimbabwe. Dr. Grant obtained his Ph.D.in Information Systems from the London School of Economics and Political Science, University of London, U.K. He has consulted for the Commonwealth Secretariat in the UK and the COMNET-IT Foundation in Malta on projects related to IS capability building and the application of new information and communication technologies in Commonwealth countries. He served as program coordinator for the Commonwealth-sponsored "Regional Initiative for Informatics Strategies". He is on the advisory board of the Ottawa Manufacturers Network, an industry group for manufacturers in the Ottawa, Canada area. He is editor of the book “Managing telecommunications and networking technologies in the 21st century: issues and trends”, published in March 2001 by Idea Group Publishers.

Dr Hugo Agius Muscat

Dr Hugo Agius Muscat was born in 1961 in Valletta, Malta. In 1985 he qualified as Doctor of Medicine and Surgery from the University of Malta, and started specialisation in health informatics in 1988. In 1990 he was awarded a Master of Science degree with Distinction in Health Information Science by the University of Warwick (England). On his return to Malta he was appointed head of health information services on a national basis. Two years later he became actively involved in the formulation of health information systems strategy and in 1993 was appointed Consultant in Public Health Medicine and Director of Health Information in the Ministry of Health. In 2000 he was appointed to the position of Manager (Vision and Strategy) in the Central Information Management Unit of the Office of the Prime Minister. For a year and a half he also fulfilled the role of Chief Information Management Officer, leading the development of corporate information management policies and standards and the implementation of the E-Government programme. Dr Agius Muscat is a part-time lecturer at the University of Malta on health information and medical informatics.

Dr. Muhammad Abu Yusuf

Dr. Muhammad Abu Yusuf is a Civil Servant and at present working at the Ministry of Science and Information & Communication Technology (MOSICT), Bangladesh as Assistant Scientific Adviser. Dr. Yusuf started career as a member of Bangladesh Civil Service since 21January1986 and performed as an administrator, trainer and scientist at different capacity in different tires of country’s administration, training institute and ministries. Dr. Yusuf is an Environmental Scientist with an excellent and diverse academic background. He did B. Sc. (Honours) and M. Sc. in Chemistry from the University of Chittagong, Bangladesh in 1985. He also did Masters in Environmental Science/Human Ecology from the Free University of Brussels (VUB), Brussels, Belgium in 1995. His Ph.D. is on Environmental Science from the National University Malaysia, Malaysia. As an Environmental Scientist, he conducted research at the Environmental and Analytical Chemistry Laboratory of the Free University Brussel (VUB), Brussels, Belgium and National University Malaysia (UKM), Malaysia. He also conducted research in a project of United Nation Environmental programme (UNEP) /Regional Office for Asia and Pacific (ROAP) funded by the DANCED at the Institute for Environment and Development (LESTARI), Malaysia.

At present Dr. Yusuf is entrusted with responsibilities include provide secretariat support to the National Council for Science and Technology (NCST) a top national authority on formulation of Science and ICT Policy and ensure nations science and technology development where Honourable Prime Minister is the Chairman and honourable ministers and eminent scientists are members and ensure implementation of the decision of NCST. In addition to this, organise meeting of the Executive Committee of NCST (ECNCST) where Honourable Minister for MOSICT is the chairman, secretaries of the line ministries and scientists are member; provide secretariat support to organise Expert Consultative Committee meeting and implementation of meetings decision; and management of Research Grant of US $2 million (each year) to conduct research for the development of science and ICT. Moreover, performing the functions of management of National Science and Technology Foundation (NSTF). Dr Yusuf is actively involved in the policy decision process of the development of Science and ICT at the Ministry of Science and Information & Communication Technology (MOSICT).

Hon. Austin Gatt, Minister for Justice and Local Government

Dr Austin Gatt read law at the University of Malta from where he and graduated in 1975. He practised law as a partner with one of the oldest law firms in Malta between 1975 and 1982.

In 1980 he was entrusted by the Nationalist Party with building a party structure to eliminate the possibility of electoral fraud in the General Elections. In 1982, Dr Gatt was appointed Chairman of the Management Board of Independence Print Company Limited, the company which incorporates all the commercial activities of the Nationalist Party. He was also appointed Head of the Legal Office of the Party.
In 1988, Dr Gatt was elected Secretary General of the Party and became responsible for the overall organisation of the Party. As Secretary General, Dr Gatt undertook a complete reorganisation of the Party's political, administrative and commercial structures and was responsible for preparing and ensuring the implementation of all plans for the General Elections of 1992 and 1996.

Dr Gatt contested the general elections for the first time in 1996 and was elected from the First District. Between 1996 and 1998 he was Party spokesman for Justice, Local Councils and Housing and was entrusted by the Nationalist Party to set up the Party's television station. Following the Nationalist Party victory at the General Elections of September 1998, Dr Austin Gatt was appointed Parliamentary Secretary in the Office of the Prime Minister, and six months after, Minister for Justice and Local Government, also responsible for the Public Service Reform.

During his term of office, Dr Gatt has spearheaded an unprecedented national drive to establish a first class information society in Malta. The Minister set up the eMalta Commission and tasked it with the development and implementation of the programmes and initiatives necessary to attain this objective. In parallel, Dr Gatt has pursued the implementation of an E-Government model, which apart from improving the delivery of public services will also serve as an international show-case for the Maltese information society and economy.

Mr Alan Alden

Alan Alden is the Enterprise Risk Manager for Deloitte and Touche and counts the development of an information security strategy for the Government of Malta as one of his milestone developments. His Consultancy work in Deloitte and Touche was preceded by twenty years in Banking, including ten years in IT audit and Y2K services. He holds various professional qualifications in banking, finance and information systems security.

Mr Antoine Gouder
Antoine Gouder is the Brand Executive for e-shore, the brand of Terranet Limited which focuses on the Internet needs of corporate customers. Terranet Limited was set-up in 1995 and provides a variety of Internet-related services through its three brands e-shore, di-ve, and maltaNET.

Antoine possesses a B.A.(Hons) degree in Business Management and a Masters degree in Marketing from the University of Malta and has worked in Investment Promotion and the Telecommunications sector. Antoine is a regular contributor of articles on the subject of Internet Marketing and Electronic Commerce.

Mr Claudio Grech, MBA (Maastricht), B.Sc, Dip. Pol. Sc.
Private Secretary to the Minister for Justice and Local Government
Executive Secretary, eMalta Commission
E-Government Programme Manager
Following his graduation as a Bachelor of Science in Business and Computing from the University of Malta in 1995, Mr Grech joined a local insurance company as a business analyst in its information services department. Between 1996 and 1999, he carried out strategic human resources management projects at the Management and Personnel Office in the Office of the Prime Minister.

In 1999 he joined the private secretariat of the Minister for Justice and Local Government, as the Policy Coordinator for the field of Local Government. In 2000 he graduated as a Master in Business Administration from the Maastricht School of Management and later on in the same year he was appointed as Private Secretary to the Minister and was allocated the responsibility of implementing electronic policy. In 2001 he was also appointed Executive Secretary of the eMalta Commission and E-Government Programme Manager.

Mr Grech represents Malta on the Joint High Level Committee of the eEurope+ initiative of the European Commission and has also been appointed to serve on the Committee of Experts on Modernising Government of the Council of Europe.

Mr Damian Xuereb
Damian Xuereb has been employed in MITTS Ltd for the past 6 years. During his career with MITTS he has held various executive positions including the Programme Management of the E-Government initiative and a consultative role to the Central Information Management Unit in the Office of the Prime. He currently holds the position of a Product and Programme Manager, with the mandate of developing new initiatives and key areas of the essence for both MITTS Ltd and the Government.
Damian, a business management graduate, has been exposed to a number of fields within the IT and business industry, primarily desktop, server and network technology, and is specialised in Internet an e-Business consultancy. He has led a number of consultations within the Government of Malta, namely within the electronic and mobile governance field. Damian firmly believes in the establishment of an Information Society and Economy and is committed to achieve it.

Mr Errol Hewitt
A graduate of the University of the West Indies in economics (Special Honours) and with post-graduate training in Marketing (Japan) and Project Management (USA), Mr. Hewitt began his career in the Ministry of Finance (Budget Division) and subsequently served in the foreign service, being posted in the Jamaica High Commission (Second Secretary - Economic & Political Affairs) in Ottawa, Canada. He served as First Secretary, assigned to the Economic and Social Commission, at

the United Nations in New York and again at the Jamaican High Commission in Ottawa as Counsellor and Head of Chancery.

Mr Godfrey Vella
Godfrey Vella is the CEO for Datastream Ltd, the data network subsidiary of Maltacom, Malta`s partly state-owned telecommunications company.

Godfrey is qualified and has had extensive experience in telecommunications engineering and information technology over the past twenty five years. In the mid-nintees, he played a key role in a core group responsible for the development of a national ICT strategy for Malta.

Mr Howie Macumber
Howie Macumber is Director of Technical Services in the Telecommunications Sector of the Government Telecommunications and Informatics Services (GTIS) branch of Public Works and Government Services Canada. GTIS is a common service agency providing telecommunications and computer services to the Government of Canada. The organisation which he leads provides technical support in the development and management of telecommunications services for the Government of Canada.

For some time now, Mr. Macumber has been associated with the Secure Channel Project which is developing and implementing an electronic service delivery infrastructure to enable the Government of Canada to deliver programs securely over the Internet. His duties involve leadership of a team which is responsible for ensuring that, at the conclusion of the service development phase, service management operations are successfully transitioned from the Secure Channel Project Office to the GTIS Telecommunications Sector.

Mr. Macumber holds a B.Sc. (Mathematics) from Acadia University, a B.Eng. (Electrical Engineering) from the Technical University of Nova Scotia and an M.Sc. (Electrical Engineering) from Queen's University in Kingston, Ontario. Following graduation, he worked for five years at Bell-Northern Research in Ottawa, Ontario before joining the Government Telecommunications Agency (a predecessor organisation to GTIS).

Mr. Macumber is a member of the Professional Engineers of Ontario (PEO) and of the Institute of Electrical and Electronic Engineers (IEEE).

Mr Joseph R Grima, Head of the Public Service, Malta
Joseph R Grima is a career public officer who joined the executive class of the Public Service in 1964. He served in various postings including Malta's High Commission in London and the Cabinet Office. In 1991 he was appointed Secretary to Cabinet and in 1995 he became Permanent Secretary (OPM) and Head of the Public Service. Mr. Grima is also Chairman of Malta Information Technology and Training Services Ltd and Deputy Chairman of the Malta Council for Economic and Social Development.

Mr Robert M Silver
B.Com. (St F X), M.B.A. (Dal), A.I.C.B. (McGill), F.I.C.B. (Tor), C.M.A.
Robert Silver has 20 years senior management experience and has practised consultancy internationally for the past 9 years within both the private and public sectors. His work experience encompasses directorships and executive roles in a range of industrial sectors that include information technology, telecommunications, hydro-electricity, forestry, manufacturing, mining, oil and gas, beverage alcohol, industrial development, and auto and general insurance. His career has included 9

years in the private sector, 17 years in the public sector, and 10 years in entrepreneurial activities.

Mr Rory Power
Rory works for Enterprise Ireland, the Irish State Agency for supporting Irish indigenous industry. His current responsibility is in the area of electronic commerce and is the Irish delegate to the EU 5th Framework IST management Committee in the "New methods of Work and Ecommerce".

Rory has represented Ireland for over twenty years in barcode technology, Electronic Data Interchange and electronic business in many international fora. He was the UN/Edifact Rapporteur for Western Europe 1995 to 1999.

Mr Roy Sunstrum
Roy Sunstrum has over 20 years of business and leadership experience including several years at Director and Vice President levels in Nortel Networks and JDS Uniphase. Areas of focus have included component engineering supply management and logistics semiconductor operations and facilities management.

Roy has been active in the Ottawa Manufacturer` s Network Advisory Board for many years, and more recently acts in advisory capacities with numerous young technology companies. In March 2002, Roy, along with his partner Damian Hanel, launched 'Sunstrum Hanel and Associates, a consulting firm helping young companies to 'Execute right from the start'.

Mr Samuel Serero
Mr Serero is currently employed by the Government Computer Bureau, Gaborone, Botswana. He serves as Senior Systems Analyst and IT Manager for the Ministry of Mineral, Energy and Water Affairs. In this position he leads a team providing IT expertise to Ministry. He assists ministry staff with developing strategic IT plans, defining IT requirements and takes lead in selection and procurement of hardware & software. Ensures adherence to Government and Ministry's IT policies, procedures and standards. Manages IT staff in ministry. Organise IT structures in ministry and management of human and IT resources. Supporting role to Ministry IT Committee.
One of his roles is the Government Data Network (GDN) Information Security Officer and was involved in making sure that the GDN Security Audit was successful. The project involved among other things development of government security policies, guidelines, penetration tests, etc. The project is completed and Mr Serero is responsible of making sure that the recommendations are implemented.

Mr Saviour Cachia
Mr Saviour Cachia, Data Protection and Architecture Manager with Malta Information Technology and Training Services Ltd. has been working in the field of Information Systems for twenty years, specialising in Information Resource Management. He has been responsible to implement information sharing initiatives for the Maltese Government for the past eight years. Besides managing the Common Database, which is the major information sharing platform for the Government of Malta, Saviour is also responsible for articulating and implementing Data Architecture Standards in the Public Service. The advent of E-Government services promoted the need for interoperability between systems both from a technological aspect, and even more so from a data content aspect. Data is the foundation block to attain interoperability between systems, and as such Saviour is currently leading a team to design a sound Data Architecture platform, and a framework to achieve interoperability between systems and various e-services.

Mr Cachia has been also working in the field of data protection for the past four years. He was a member of the Drafting Committee of the Cyber Laws consisting of the Electronic Commerce Act, Computer Misuse and the Data Protection Act. During this period, he has been carrying out extensive research on data protection. Currently he is involved in the implementation of data protection in the Public Service.

Mr Sunil Geness

Sunil Geness is the senior manager of projects in the Department of Public Service and Administration (DPSA) an entity within the Ministry for the Public Service and Administration in South Africa. Located in the office of the Government Chief Information Officer (OGCIO) and reporting directly to the Director-General, he is actively involved in a range of projects that are being rolled out in the field of *e*-Governance, the most significant being the conceptualisation and implementation of the *E-Government* gateway. A former physics, math and electronics educator, Sunil joined the DPSA in 1997 and has headed up a range of strategic projects in the areas of organisational development, restructuring, human resources and modernising government. He holds a Higher Education Diploma (H.ED) from the Springfield College of Education, a B Comm Honours (*Cum Laude)* from the University of South Africa (UNISA) and is currently completing a Masters in Public & Development Management (MM) at the University of Witwatersrand.

Ms Susie Dorai Raj

Susie Dorai Raj is Principal Assistant Director at the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU). Prior to her present position she worked for the National Institute of Public Administration of Malaysia for 13 years.

Susie holds a Bachelor of Science in Computer Science from the National University of Malaysia and a M.Sc. in Business Systems Analysis and Design from City University, UK.

Appendix D - The Sponsors and Organising Agencies

Governance and Institutional Development Division (GIDD)
The Governance and Institutional Development Division at the Commonwealth Secretariat (GIDD), assists member governments in increasing their pool of human resource through training and capacity building of national and regional institutions. It also provides advisory services to enhance managerial capacity in government, public and private sector enterprises and non-Government organisations.

GIDD's funding resources for assistance to member countries come from the Commonwealth Fund for Technical Cooperation (CFTC), which is the Commonwealth's sole multilateral agency for development. CFTC's resources, expertise and training facilities as well as finance, are contributed by both developed and developing countries, the latter playing a dual role as donors and recipients.

The Government of Malta
Since the late nineteen eighties, Malta has taken very significant strides aimed at Public Service Reform and at the development of an Information Society. Strategies for public service improvement were progressively implemented in the areas of institutional development, human resource development, financial management and information management. Investments in the public service were matched by a rapid upgrading of the country's telecommunications infrastructure, an emphasis on IT skills development, the introduction of appropriate legal and regulatory frameworks and the implementation of a national IT strategy.

Deloitte Touche, Malta
Deloitte Touche Tohmatsu is one of the world's leading professional services firms, delivering world-class assurance and advisory, tax, and consulting services. More than 90,000 people in over 130 countries serve nearly one-fifth of the world's largest companies as well as large national enterprises, public institutions, and successful fast-growing companies. Its internationally experienced professionals deliver seamless, consistent services wherever its clients operate.

The origin of the firm in Malta can be traced back to one of Malta's first accountants whose portfolio of clients comprised a number of Malta's leading family-owned businesses. Over the years the practice expanded steadily and is now firmly established as one of Malta's leading providers of professional services.

The Commonwealth Network of Information Technology for Development
The Commonwealth Network of Information Technology for Development (COMNET-IT) is an international foundation hosted by the Government of Malta and also supported by the Commonwealth Secretariat, London. It works primarily within Commonwealth member countries to support activities related to the development of capability in implementing, managing and using information and communications technologies.

The Commonwealth Secretariat, though the Commonwealth Fund for Technical Co-operation (CFTC), along with other donors, supports COMNET-IT programmes. The National Centre for Software Technology in Mumbai, India, the Malta Information Technology and Training Services Ltd, the Government Telecommunications and Informatics Services (Canada), the Malaysian Administrative Modernisation and Management Planning Unit, the Government of South Africa and Jamaica's Ministry

of Commerce and Technology serve as sources of support and competence for the Foundation.

Malta Information Technology and Training Services Limited

Malta Information Technology and Training Services Limited (MITTS Ltd) in operation since 1990 is the Government of Malta's Information Technology Agency. Its objective is to provide business solutions and technical expertise to the various sectors of the Public Service. MITTS has been instrumental in the implementation of a seamless infrastructure linking all Malta Government departments and enabling the sharing of information across the Public Service. This has maximised opportunities for enhanced quality of data, process re-engineering, promotion of "one-stop services" and now the roll-out of an E-Government strategy. The engagement of local councils in the progressive devolution and decentralization of services from central government is now a key component of Malta's IS strategy benefiting both the Public Administration as well as the formation of an Information Society.