



2008

AFACT YEAR BOOK



PREFACE I

AFACT Steering Committee Chairman, Chun-Seok Kim



Since 1990s, we've experienced dramatic changes in our business and daily lives by adopting IT and e-business. New information technologies including ICT and e-business not only contributed to the high productivity and economic growth but also accelerated the globalization. Therefore, utilization and diffusion of IT and e-business are at the heart of the main policy and strategy in business, in government, and in all countries. The worlds are now driving forward to the digital economy with rapid development of IT and e-business where innovation is required. Recently, flows of

conversion and integration between technologies, between industries, and between IT and non-IT sectors, brought new businesses and industries such as u-manufacturing, u-health, u-Farm, u-city, u-banking and other innovative industries. In 2008, innovative technologies and services including SaaS, SOA, RFID, Virtualization, Green IT, and Universal communications have emerged as new enablers for the future society.

AFACT has been actively promoting trade facilitation in the Asia Pacific region since its establishment in 1990. In 2007, AFACT Roadmap TFT was set up to develop the AFACT Roadmap and the AFACT Roadmap is now expected to be completed in 2008. I'd like to give my sincere gratitude to AFACT Roadmap TFT for their hard works and efforts. The Roadmap with identified four focus area will lead the future way of AFACT. One of the accomplishments we've achieved in 2008 is expansion of AFACT through embracing eAC to our umbrella, and having a new member economy, Saudi Arabia. eAC will increase public-private partnership and cooperation, and Saudi Arabia will advance our goal of trade facilitation in AFACT region. Again, I very much appreciate their participation. With these efforts and achievements AFACT made, and the advent of new and innovative enablers in digital economy, AFACT is now expected to enhance its capacity and broaden its role and work scope.

Finally, I'd like to express my gratitude to AFACT Secretariat for its contribution and continuous support to AFACT. AFACT 2008 Year Book, one of big efforts of AFACT Secretariat, will be a basis of AFACT internal collaboration and is a remarkable achievement of AFACT. Congratulations again for the publication of AFACT 2008 Year Book.

Chairman of AFACT Steering Committee
President of Korea Institute for Electronic Commerce

Chun-Seok Kim



PREFACE II

UN/CEFACT Vice Chair, T.A. Khan



eBusiness opportunities are growing rapidly with the increase in the number of Internet users. The world-wide-web is globally pervasive. Internet has picked by more users around the world as compare to any other communication tool. Initially it was concentrated in US and Europe, however most growth in last few years has been experienced in the Asia Pacific region. eBusiness growth has also now stabilised.

If Asia is to become a major power in the global economy, there is great need for the region to push its eBusiness development. Japan

and South Korea are riding the boom, China and India are also growing rapidly, however the vast potential is yet to be explored fully especially to the advantage of developing and least developed economies. The Asia/Pacific market is becoming an increasingly attractive eBusiness environment as the number of active internet users in Asia is growing dramatically. With a healthy Internet penetration growth recorded and continued positive economic growth across the region, many businesses have been driven to increase their online services offerings. This rapid internet growth in the region has also witnessed a good number of users being turned into buyers and bringing good profits for many online businesses in the last few years. These encouraging trends are expected to drive an explosion of the overall eBusiness market.

A number of hurdles, common to economies in this region, must be cleared to ensure sustainable long-term growth. The major hurdles are immature online payment systems, poor delivery networks, poor PC penetration, low internet penetration, poor and expensive broadband and distrust between buyers and sellers etc. To address these challenges and issues, we need to be integrated regionally and internationally, promote access, equality, reliability and growth of eBusiness in the region. The growth very much depended on how and when the above mentioned constraints are addressed by the Governments and the Industry for facilitating trade. The AFACT Road map can prove to be a stepping stone in this direction. We need to work extensively in firming up the AFACT roadmap and moreover to work accordingly as per agreed plan.

Active participation in the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) work program and integration of its standards and recommendations at the national level is another important agenda for every government at national level and international institutions like AFACT, UNESCAP, APEC, ASEAN and others at Asia Pacific regional level.

I would like to compliment AFACT Secretariat in successfully managing the AFACT year book.

UN/CEFACT Vice Chair & Deputy Director General, NIC

T. A. Khan

PREFACE III

AFACT Secretariat, Jyh-Sheng Ke



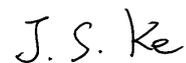
Over the past years, we have seen a big trend towards sustainable development which is especially an important issue for AFACT members. Most of the AFACT members have rich and valuable natural resources, and are facing a cross-roads of decisions to either following the old, traditional linear production path, or a forge a new, designed, non-linear production approach that will enable us to avoid mistakes made before.

We all understand that as large and as powerful as the global industrial economy is, it remains a subset of the natural environment, something we often forget. But what should be clear is that a linear production and consumption system cannot be run indefinitely on a planet with finite resources. However, with more planning and forethought, we can transform our current industrial production methods -- from sourcing, to engineering, production, accounting, distribution, consumption and finally recycling and reuse, into some process that accommodate both economic growth and environmental preservation.

Improving the competitiveness of Asia Pacific economies via ICT tools and e-business is one of the major goals of AFACT. Within this framework it is crucial that businesses in the region, especially medium and small sized enterprises, leverage ICT applications and services that will enhance their effectiveness, market penetration and improve cooperation within value chains. As the needs to transform current industrial production processes into greener approaches emerge, we are confident that ICT tools and e-business will again play a vital role in facilitating this inevitable transformation.

As the Secretariat of AFACT, we look forward to working with likeminded members of the AFACT community to research and promote the development of sustainable solutions by using the ICT and e-business tools, and would like to urge all member economies to grasp new economic opportunities associated with environmental issues. It may be a challenging task, but it is some task we will have to carry out for not just ourselves but our generations to come.

AFACT Secretariat



Jyh-Sheng Ke



PREFACE IV

UN/CEFACT Rapporteur for Asia, Sangwon Lim



The year 2008 has posed much challenge to the development of global economy as a whole as well as the economic development of individual economy and country. Despite unfavorable global economic circumstances, AFACT continued its collective efforts in the development of trade facilitation and electronic business for joint regional progress.

The 26th AFACT Steering Committee meeting was more than a success in the sense that it provided a platform for greater cooperation between AFACT and one of its Associate Members, the e-Business Asia Committee (eAC). The cooperative transition of eAC to AFACT will facilitate synergy among the regional bodies in the development of regional best practices and provide a better opportunity for AFACT to integrate the requirements from the private sector in a more effective manner.

More than anything else, AFACT faces a major task of completing restructuring plan for future development through the work of designing AFACT Roadmap. With the ever-changing regional and economic environment and rapidly developing ICT industries, AFACT needs to define more accommodating and encompassing roles in the region. To mention a few specific tasks, AFACT has to identify a way to promote the participation of regional stakeholders in a wider scope. To do that, AFACT should develop practical work programs that can attract and help relevant stakeholders, while facilitating easy participation with more flexible membership models. Another important issue in the line is to develop a sustainable organizational model in a longer term. I am confident that AFACT community members will reach to a collective strategic direction with its consensus-based approach.

Finally, I would like to congratulate AFACT community as a whole for the publication of this year's AFACT Yearbook and express special gratitude to the AFACT Secretariat for necessary support in the publication. AFACT Secretariat has continued its effort to support the publication of the AFACT Yearbook for the last four years and this year sees the publication of 5th one. I hope that the AFACT Yearbook continues to be the monumental achievement of AFACT community for sharing one another's approaches and experiences in trade facilitation and electronic business.

UN/CEFACT Rapporteur for Asia

Sangwon Lim

Introduction to AFACT

About AFACT

AFACT Bylaws

2008 AFACT Structure & Members



ABOUT AFACT

AFACT is the Asia Pacific Council for Trade Facilitation and Electronic Business. It's a non-profit, non-governmental organization that is open to participation from the representatives of member economies and experts from private sectors within the Asia-Pacific region.

The forerunner of AFACT was ASEB (Asia EDIFACT Board) established in 1990 in response to disseminate EDIFACT (Electronic Data Interchange for Administration, Commerce and Transport) policies and activities in the Asia-Pacific region. After 8 years' contribution to facilitate international transaction within the region, through the simplification and harmonization of procedures and information flows, the need for re-engineering was raised in the 16th ASEB meeting to conform to the rapidly changing trend of EDI and EC, and to respond to the successful restructure of UN/CEFACT. As a result of re-engineering, AFACT marked down the era of ASEB in 1998. In 1999, the epoch of AFACT was officially commenced.

AFACT aims to promote the commitment and development of trade facilitation, electronic business policies and activities in the Asia Pacific region, mainly focusing on those promoted by UN/CEFACT (United Nations Center for Trade Facilitation and Electronic Business), to guide, stimulate, improve and promote the ability of business, trade and administrative organizations from members, as well as to exchange products and relevant services effectively within AFACT community.

Currently, there are 18 members from Afghanistan, Australia, Cambodia, Chinese Taipei, India, Indonesia, Iran, Japan, Korea, Malaysia, Mongolia, PRC, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam. Each of which is represented by a local organization dedicated in promoting the application of standards and recommendations, e.g. UN/EDIFACT, developed by UN/CEFACT. eBusiness Asia committee and PAA (Pan-Asian eCommerce Alliance) are the associate members of AFACT, which are dedicated to promote cooperation in implementing trade facilitation and eCommerce in this region.

There are 11 active Working Groups formed under AFACT, each with its own scope of work and responsibilities. The Working Groups are Awareness and Education Working Group (AEG), Financial Working Group (FWG), Transport Working Group (TWG), Customs Working Group (CWG), Security Working Group (SWG), Air Transport Working Group (ATG), Supply Chain Working Group (SCWG), Legal Working Group (LWG), Internetworking Implementation Committee (IIC), XML Working Group (XMLWG), and Business Collaboration Framework Working Group (BCFWG).

The major activities include :

1. Analyzing and understanding the key elements of international transactions and working for the elimination of constraints;
2. Developing methods to facilitate transactions, including the relevant use of information technologies such as UN/EDIFACT and ebXML;
3. Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
4. Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
5. Enhancing the cooperation among the AFACT members and promoting the objectives of the mission statement in the Asia Pacific region.



AFACT BYLAWS

Article 1

Name

The name of this organization shall be the Asia Pacific Council for Trade Facilitation and Electronic Business (hereinafter referred to as "AFACT").

Article 2

Mission Statement

AFACT aims to support in the Asia Pacific region policies and activities, especially those promoted by UN/CEFACT (United Nations Center for Trade Facilitation and Electronic Business), dedicates to stimulate, improve and promote the ability of business, trade and administrative organizations, to exchange products and relevant services effectively in a non-political environment.

Its principal focus is to facilitate international transactions, through the simplification and harmonization of procedures and information flows, and so contribute to the growth of global commerce.

Article 3

Terms of Reference

The principles of the mission statement are to be achieved by:

- Analyzing and understanding the key elements of international transactions and working for the elimination of constraints;
- Developing methods to facilitate transactions, including the relevant use of information technologies such as UN/EDIFACT and ebXML;
- Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
- Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
- Enhancing the cooperation among the AFACT members and promoting the objectives of the mission statement in the Asia Pacific region.

Article 4

Structure

AFACT shall be a non-profit, non-political, voluntary and independent organization.

Article 5

Membership

Membership shall comprise two categories shown in Appendix 1 hereto:

- Member - The countries and economies in the Asia Pacific region represented by the agency assigned to promote and develop trade facilitation and Electronic Business. Such agency is recognized as the single focal point for UN/EDIFACT or UN/CEFACT related activities.

Agencies of the United Nations can also be members.

All existing members and associate members in the ASEM shall be automatically recognized as members of AFACT.

- Associate member - Any other organization from the Asia Pacific region or relevant international organization located in the region, committed to similar objectives as AFACT.

Any country, economy or organization wishing to join AFACT must submit an application for membership in writing to the AFACT Secretariat who shall circulate it to the Steering Committee members for consideration and approval, as well as to all members and associate members for consultation. If approved, the Steering Committee shall report to the Plenary on the approval of the application.

The Chair for the Plenary may also invite non-member countries, economies and experts as observers or special invitees.

Article 6

Plenary

The Plenary shall include members, associate members and observers, represented by their Heads of Delegations. A simple majority of the members is required for a quorum.

The Plenary Meeting shall be a forum to exchange views on any areas of common interest including the latest developments in each member or associate member under the ambit of the Mission Statement.



The Plenary shall be the highest decision making body of AFACT and shall have the responsibility of ratifying all major decisions and monitoring the execution of the adopted resolutions.

The preferred way of reaching decisions shall be by consensus. However, the Chair shall have the authority to call for a vote if, in his view, consensus cannot be reached on a particular issue. In such cases, a simple majority of all voting members constitutes a decision. In case of a tie, the chair shall cast the deciding vote.

Only members are eligible to vote. The vote shall be cast by the Heads of Delegations or their designated representative.

For dissolution of AFACT, the adoption of the Bylaws or a change to the Bylaws, a two-third majority of all voting members is required.

Absent members can have the option to vote by email or other means, or by proxy entrusted to the Chair or a fellow AFACT member.

The Plenary shall meet at least once a year.

Article 7

Officers and Secretariats

Annually AFACT shall identify a member to host the organization (hosting member).

The officers of AFACT shall be the Chair, two Vice-Chairs and the Secretary. The term of office for each post shall be one year.

The hosting member shall nominate the Chair, with one Vice-Chair being nominated by the next hosting member (Chair elect) and the immediate former Chair acting as the other.

At the start of each Plenary, the identification of next hosting member and the Chair elect shall be approved.

The hosting member shall nominate a person who shall be the Hosting Secretary of AFACT (hereinafter the hosting Secretariat).

Their term shall start immediately after the close of the previous Plenary meeting. In order to ensure a smooth hand-over between the two hosting Secretariats, a Joint hosting Secretariat shall exist for an agreed period, after the previous Plenary meeting.

The AFACT Secretariat shall be nominated by the Steering Committee and ratified by the Plenary for four years term, based on the Terms of Reference described in the Appendix 3, which shall be open for any AFACT member and reviewed every four years.

Article 8

Steering Committee

The Steering Committee is responsible for the management and coordination of AFACT between the Plenary meetings. The Steering Committee also supervises the progress status of the decision made by the Plenary meeting.

The composition of the Steering Committee shall be as follows:

- Chair (of AFACT)
- Two Vice-Chairs (of AFACT)
- UN/CEFACT Rapporteur for Asia (Advisor)
- Two Heads of Delegation appointed by the Plenary who will hold office as members of the Steering Committee for a term of two years.
- AFACT Secretariat

The Steering Committee is chaired by the Chair of AFACT.

The hosting Secretariat shall be present in all Steering Committee meetings.

The agenda for the Steering Committee meeting shall be circulated to the Heads of Delegations and Chairs of Working Groups for comments.

The Chair may invite Chairs of Working Groups for specific meetings, as appropriate and all Heads of Delegation shall be entitled to attend meetings of the Steering Committee.

Where required, the Steering Committee shall be empowered to take decisions on behalf of AFACT between Plenary meetings. In such cases, every effort shall be made to consult with the Heads of Delegations.

Steering Committee decisions shall be made by consensus.

The Steering Committee shall meet at least twice a year. This can be either in the form of a physical meeting or a virtual meeting.

Article 9

Working Groups

Working Groups may be established to focus on a specific area of interest, under the ambit of the Mission Statement.



To establish a Working Group, the interested parties shall submit a proposal, including the Terms of Reference, to the Steering Committee for approval and subsequently, to the Plenary for ratification.

Each Working Group shall appoint its own Chair and Secretariat. The term of service for the Chair and the Secretariat shall be for a period of two years.

Each Working Group shall submit its Work Program to the Steering Committee for endorsement.

The Working Group shall meet at least twice a year. This can be either in the form of a physical meeting or a virtual meeting.

The Chair of each Working Group shall report to the Plenary.

All Working Groups under the ASEM shall be automatically recognized as a Working Group under the AFACT. Each Working Group shall review and submit their Terms of Reference to the Steering Committee for approval and subsequently, to the Plenary for ratification.

Article 10

Focal Point

Each AFACT member is required to have a single focal point, dedicated to the promotion, dissemination and implementation of AFACT objectives.

The focal point shall identify the Head of Delegation and a contact person who shall be responsible for communication with the AFACT Secretariat and all related parties.

Article 11

EDICOM

EDICOM is the annual conference and exhibition of AFACT. It features the latest technology and information on Electronic Data Interchange (EDI), Electronic Commerce (EC), UN/EDIFACT and other related activities including trade facilitation.

EDICOM shall be organized by the hosting member, adjacent to the Plenary, in consultation with the Steering Committee.

Article 12

Relationship Between AFACT and UN/CEFACT

As set out in its Mission Statement, AFACT seeks, amongst other objectives, to promote the aims, objectives and activities of UN/CEFACT within the Asia Pacific region. To this end, Asia Pacific delegations to UN/CEFACT provide a strong link between AFACT and UN/CEFACT.

The UN/CEFACT Rapporteur for Asia provides another significant linkage. The Rapporteur shall be appointed by the Plenary of UN/CEFACT on the recommendation of the AFACT Plenary. (The Mandate of the UN/CEFACT Rapporteur for Asia is attached as Appendix 2).

AFACT is also strongly encouraged to identify and nominate potential members to the UN/CEFACT Steering Group. These nominations shall take place after full consultation with AFACT and shall normally be made on behalf of AFACT, to the UN/CEFACT Secretariat, by the delegation holding the Chairmanship of AFACT or by a delegation designated by the Chair.

Close coordination between AFACT Working Groups and UN/CEFACT Working Groups is strongly encouraged and both bodies shall use their best endeavors to ensure this coordination. This is most effectively achieved when there is a formal relationship between the respective groups.

Article 13

Expenses

The hosting member shall cover all expenses involved in organizing the Plenary Meeting, the Steering Committee Meeting and the meetings for the various Working Groups held before the Plenary Meeting.

The hosting member is entitled to charge a participation fee for each delegate. The amount to be charged shall be decided in consultation with the Steering Committee.

The AFACT Secretariat shall cover all the costs incurred in performing the responsibilities as the secretariat and maintaining the AFACT Website.

Article 14

Working Language

The working language of AFACT shall be English.

Article 15

Effectiveness

These Bylaws enter into effect on October 3, 2001, upon ratification by the AFACT Plenary.



Appendix 1

List of Members and Associate Members as of May, 2006

Members : Afghanistan, Australia, Cambodia, Chinese Taipei, India, Indonesia, Iran, Islamic Republic, Japan, Malaysia, Mongolia, Pakistan, Islamic Republic, Philippines, P.R.C, Republic of Korea, Singapore, Sri Lanka, Thailand, Vietnam,

Associate Members : eBusiness Asia Committee, PAA

Appendix 2

Mandate UN/CEFACT Rapporteur for Asia

Within Asia, the Rapporteur shall:

- Promote and represent UN/CEFACT's interest and activities to governments, inter-governmental organizations, relevant trade associations and business and trade facilitation organizations;
- Encourage the participation of experts in UN/CEFACT's work program and stimulate the implementation of UN/CEFACT's Recommendations;
- Coordinate UN/CEFACT's activities in the region.

Liaison Relationships

This mandate shall be carried out, where appropriate, in liaison with Heads of delegations to UN/CEFACT coming from Asia as well as in liaison with the secretariat of ESCAP and the Chairs of UN/CEFACT's Working Groups.

Reporting Relationships

The Rapporteur shall be presented a report at each UN/CEFACT Plenary. The Rapporteur may raise issues directly with the CEFACT Forum Management Group (FMG) and the Bureau, and has an open invitation to attend the Bureau and FMG meetings in a consultative capacity.

Duration of Appointment

The appointment as Rapporteur is for two years, renewable.

Appendix 3

AFACT Secretariat Terms of Reference

1. Background

- When the Asia EDIFACT Board (ASEB) was reformed into the Asia Pacific Council for the Facilitation of Procedures and Practices for Administration, Commerce and Transport (AFACT) in 1998, the Board decided that AFACT did not have a permanent secretariat, and secretariat roles were served by the host secretariat in one year term. The running secretariat shall be provided by the host member, which this new system shall be reviewed after two or three year's experiences.
- In the Taipei AFACT meeting, the HoD of Islamic Republic of Iran suggested to consider for setting up a secretariat to manage AFACT in consistent manners. The AFACT Plenary has decided to establish a secretariat under AFACT in principle. Then, the Chair (Dr. Lin) allowed the Steering Committee to look for a secretariat within AFACT members.

2. Terms of Reference

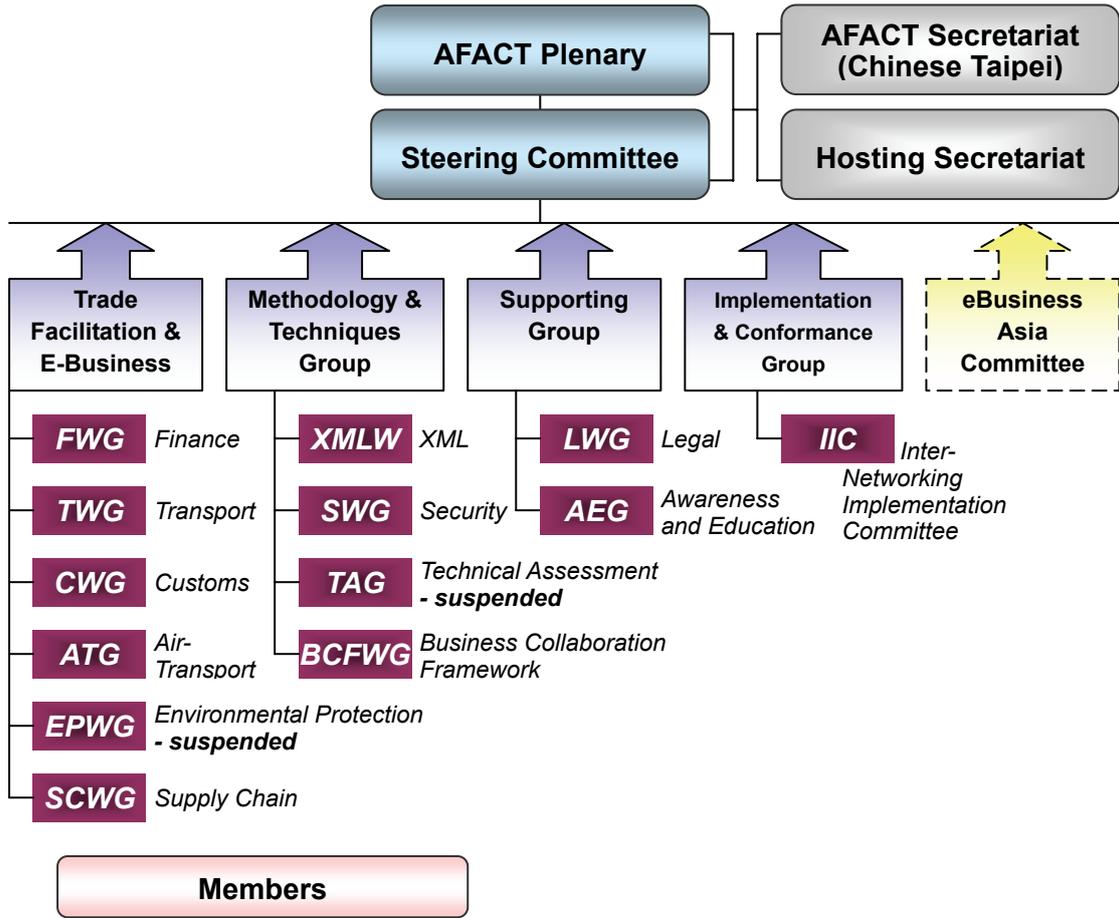
- The purpose of AFACT Secretariat is to explore, review and identify the most practical approach for managing and operating AFACT tasks on Trade Facilitation and Electronic Business in Asia Pacific region.
- The AFACT Secretariat should coordinate with UN/CEFACT Rapporteur for Asia to achieve the responsibility of the AFACT Secretariat.

Taking account of existing AFACT Terms of Reference, these shall include;

- a) To document all AFACT related activities and publish them on the AFACT web site,
- b) To maintain the AFACT web site in cooperation with other members' secretariat,
- c) To support the host secretariat for organizing AFACT Plenary meeting and its joint working groups' meetings, AFACT Steering Committee meeting and EDICOM,
- d) To facilitate the affairs in relation to new membership application,
- e) To attend AFACT related meetings to support the host secretariat,
- f) To attend UN/CEFACT Plenary meeting, if possible, to follow up its decision and discussion made during the meeting and feed back them to AFACT community, and
- g) Any other business.



2008 AFACT Structure & Members



Chinese Taipei	Singapore	Iran	Pakistan
Indonesia	Philippines	Korea	India
Thailand	Australia	Japan	Sri Lanka
Malaysia	P.R.C.	Viet Nam	Saudi Arabia *
Mongolia	Cambodia	Afghanistan	

*The application of Saudi Arabia has been approved by the STC Mid-Term Meeting, and will be ratified in the Plenary Meeting in October 2008.

Associate Members



AFACT Organization

2008 AFACT Steering Committee Board Members

2008 AFACT Heads of Delegations

2008 AFACT Members Secretariat List

2008 eBusiness Asia Committee

2008 Working Groups Chairs

Associate Members

AFACT Member Organization



2008 AFACT Steering Committee Board Members



Korea

Chun-Seok Kim

Chairman

President, Korea Institute for Electronic Commerce
6th Floor, Textile Center Bldg., 944-31, Daechi-dong,
Kangnam-gu, Seoul, 135-713, Korea

Tel: +82 2528 5800

Fax: +82 2528 5715

E-mail: kcsk@kiec.or.kr



India

T.A. Khan

Vice-Chairman / UN/CEFACT Vice-Chair

Deputy Director-General
National Informatics Centre, Department of Information
Technology, Ministry of Communications & Information
Technology

A-Block, CGO Complex, Lodhi Road, New Delhi, India

Tel: +91 11 23061299 Fax: +91 11 24362535

E-mail: takhan@nic.in



Thailand

Anchalaporn Siriwan

Vice-Chairman

Principal Adviser for Foreign Affairs
Ministry of Information and Communication Technology
89/2 Bldg 9, TOT PCL., Chaeng Wattana Road, Laksi,
Bangkok 10220, THAILAND

Tel: +66 2505 8882

Fax: +66 2568 2588

E-mail: anchalaporn@mictmail.com



Iran

Dr. Mahmood Zargar

Elected Head of Delegation

Director General, Ministry of Commerce, eCommerce
Planning & Development Office

Tel: +98 21 66924623

Fax: +98 21 66926326

E-mail: zargar@dpimail.net ; mahmood.zargar@gmail.com

2008 AFACT Steering Committee Board Members



Philippines

Michael Dodjie R. Fabian

Elected Head of Delegation

Director III, Bureau of Export Trade Promotion
Department of Trade & Industry
G/F DTI International Bldg., 375 Sen. Gil J. Puyat Ave.,
Makati City, Philippines 1200
Tel: +632 890 4727
Fax: +632 890 4716
E-mail: betpdf@dti.gov.ph



Korea

Sang-Won Lim

UN/CEFACT Rapporteur for Asia

Head of eBusiness Standard Team
Korea Institute for Electronic Commerce
6F, Textile Center , 944-31,
Daechi-3Dong, Kangnam-Gu, Seoul, 135-713, Korea
Tel: +82 2 528 5020
Fax: +82 2 528 5719
E-mail: swlim@kiec.or.kr



Chinese Taipei

Dr. Jyh-Sheng Ke

AFACT Secretariat

Senior Fellow & Board Member
Institute for Information Industry
11F, NO.106, Ho-Ping E. Rd., Sec. 2,
Taipei, Taiwan, 106, R.O.C.
Tel: +886 2 2737 7204
Fax: +886 2 2737 7104
E-mail: jske@iii.org.tw



2008 AFACT Heads of Delegations



Mohammad Malyar Jabarkhel
Head of Delegation

Project Manager
ASYCUDA Afghan Customs Department,
Ministry of Finance, Kabul, Afghanistan
Tel: +93 700 293162 / +93 777 293162
E-mail: Malyar@hotmail.com

Afghanistan



Ian Watt
Head of Delegation

Managing Director
Applied Electronic Commerce
30 Tivendale Road (P.O.Box 46) office Victoria 3809
Australia
Tel: +61 3 594 31022
Fax: +61 3 594 31023
Mob: +61(0) 408 431 023
E-mail: ian.watt@aecommerce.com.au

Australia



CHHUON Chan Than
Head of Delegation

IIC University of Technology Rector
No. 441 Monivong Blvd, PO Box 2535,
12258 Phnom Penh 3, CAMBODIA.
Tel: +855 23 216 331 / +855 23 215 996
Fax: +855 23 216 332
Mobile: +855 12 907 463
E-mail: chh.chanthan@iic.edu.kh ; cct41@yahoo.com

Cambodia



Dr. Jay-San Chen
Head of Delegation

Chairman, Taipei EC/EDI Committee
Director General, Bureau of Standards, Metrology and
Inspection, Ministry of Economic Affairs
4, SEC. 1, Chi-Nan RD. TAIPEI, TAIWAN, 100, R.O.C.
Tel: +886 2 2343 1711
Fax: +886 2 3343 5126
E-mail: js.chen@bsmi.gov.tw

Chinese Taipei

2008 AFACT Heads of Delegations



India

T.A. Khan

Head of Delegation

Deputy Director-General
National Informatics Centre, Department of Information
Technology, Ministry of Communications & Information
Technology
A-Block, CGO Complex, Lodhi Road, New Delhi, India
Tel: +91 11 23061299 Fax: +91 11 24362535
E-mail: takhan@nic.in



Iran

Dr. Mahmood Zargar

Head of Delegation

Director General, Ministry of Commerce, eCommerce
Planning & Development Office
Tel: +98 21 6692 4623
Fax: +98 21 6692 6326
E-mail: zargar@dpimail.net ; mahmood.zargar@gmail.com



Japan

Kazumi Hirai

Head of Delegation

Director, Third Management Dept.
Japan Association for Simplification of International Trade
Procedure (JASTPRO)
Yaesu No.5 Nagaoka Bldg.
2-29-11, Hatchobori Chuo-ku, Tokyo 104-0032, Japan.
Tel: +81 3 3555 6084 Fax: +81 3 3555 6032
E-mail: k-hirai@jastpro.or.jp



Korea

Chun-Seok Kim

Head of Delegation

President, Korea Institute for Electronic Commerce
6th Floor, Textile Center Bldg., 944-31, Daechi-dong,
Kangnam-gu, Seoul, 135-713, Korea
Tel: +82 2528 5800
Fax: +82 2528 5715
E-mail: kcsk@kiec.or.kr



2008 AFACT Heads of Delegations



Malaysia

Dato' Normah binti Md Yusof

Head of Delegation

Director General
Malaysian Administrative Modernization and Management
Planning Unit (MAMPU)
Prime Minister's Department
Level 6, Block B2, Prime Minister's Department Complex
Federal Government Administrative Centre
62502 PUTRAJAYA, Malaysia
Tel: +603 8888 3200 / +603 8888 2480 / +603 8888 3163
E-mail: normah@mampu.gov.my



Mongolia

Sambuu Demberel

Head of Delegation

Chairman & CEO
Mongolian National Chamber of Commerce & Industry
Ulaanbaatar-38, Sambuust-11, Mngulia
Ulaanbaatar-211238, Mongolia.
Tel: +976 11 323974
Fax: +976 11 324620
E-mail: chamber@mongolchamber.mn



Pakistan

Javed Naushahi

Head of Delegation

Chairman, Pakistan E-Commerce Resource Centre
2nd Floor. Nabika Square G-5,
Central Commercial Area off Shaheed-e-Millat Road,
Karachi. 75350 Pakistan
Tel: +92 21 4539701 / +92 21 4538837
Fax: +92 21 4524976
E-mail: jnaushahi@yahoo.com; ecrc@multi.net.pk



Philippines

Michael Dodjie R. Fabian

Head of Delegation

Director III, Bureau of Export Trade Promotion
Department of Trade & Industry
G/F DTI International Bldg., 375 Sen. Gil J. Puyat Ave.,
Makati City, Philippines 1200
Tel: +632 890 4727
Fax: +632 890 4716
E-mail: betpdf@dti.gov.ph

2008 AFACT Heads of Delegations



Saudi Arabia

Faisal Saleh Al-Mousa

Head of Delegation

General Director, SaudiEDI
P.O.Box 9717 Riyadh 11423
Kingdom of Saudi Arabia
Tel: +966 1 477 4488
Fax: +966 1 474 2693
E-mail: FSMousa@saudiedi.com



Singapore

Quah Chin Yong

Head of Delegation

Vice-President, eGovernment Delivery Division
CrimsonLogic Pte Ltd
31 Science Park Road
The Crimson, Singapore 117611
Tel: +65 6887 7888
E-mail: chinjong@crimsonlogic.com



Sri Lanka

P. Ajantha Dias

Head of Delegation

Director, Sri Lanka Customs
Bristol St. Colombo 01, Sri Lanka
Tel: +94 11 243 2131
Fax: +94 11 243 0691
E-mail: padias@customs.gov.lk



Thailand

Dr. Ajin Jirachiefpattana

Head of Delegation

Director, ICT Usage Promotion and Development Bureau,
Ministry of Information and Communication Technology
89/2 Moo3 TOT Building #9, Chaeng Wattana Road, Laksi,
Bangkok 10210 Thailand
Tel: +66 2 568 2626 / +66 2 505 7005
Fax: +66 2 568 2604
E-mail: ajin@mict.go.th



2008 AFACT Heads of Delegations



Viet Nam

Dr. NGUYEN MANH QUYEN

Head of Delegation

Deputy Director General, Viet Nam E-Commerce and Information Technology Agency (VECITA), Ministry of Industry and Trade (MOIT)

21-25 Ngo Quyen Str. Hoan Kiem Dist. Hanoi Viet Nam

Tel: +84 4 2005398 Mobile: +84 913074680

E-mail: Quyennm@moit.gov.vn

2008 AFACT Members Secretariat List

Member Economies	Secretariat List
Australia	Andrew McKay E-MAIL: andrew.mckay@standards.org.au
Cambodia	CHAN Sitthear E-MAIL: chansitthear@iic.edu.kh
Chinese Taipei	Mei Li Chen E-MAIL: mlc45@iii.org.tw
India	R.K. Arora E-MAIL: rkarora@nic.in
Japan	Kazumi Hirai E-MAIL: k-hirai@jastpro.or.jp
Korea	Jinny Ahn E-MAIL: hjahn@kiec.or.kr
Malaysia	Mohd. Danial Ma'alip E-MAIL: danial@mampu.gov.my
Mongolia	S. Oyunzul E-MAIL: info@mongolchamber.mn
Pakistan	Javed Naushahi E-MAIL: jnaushahi@yahoo.com
Philippines	Gerry Anigan E-MAIL: granigan@gmail.com
Saudi Arabia	Fahad Al-Jabli E-MAIL: fjabli@saudiedi.com
Singapore	Kamarudin Bin Tambi E-MAIL: kama@crimsonlogic.com
Sri Lanka	Aruni Goonetilleke E-MAIL: aruni@icta.lk
Thailand	Thanomsin Chakreeves E-MAIL: thanomsin@mictmail.com
Viet Nam	NGUYEN MANH QUYEN E-MAIL: QuyenNM@moit.gov.vn



2008 eBusiness Asia Committee



Japan

Hisanao Sugamata

2008 Chair of eBusiness Asia Committee

Next Generation Electronic Commerce Promotion Council
of Japan

Kikai Shinko Kaikan Bldg. 3F
3-5-8 Shibakouen, Minato-ku,
TOKYO 105-0011, JAPAN

Tel: +81 3 3436 7568

Fax: +81 3 3436 7500

E-mail: sugamata@ecom.jp

2008 Working Groups Chairs



Pakistan

Javed Naushahi

Finance Working Group (FWG)

Chairman, Pakistan E-Commerce Resource Centre
2nd Floor. Nabika Square G-5,
Central Commercial Area off Shaheed-e-Millat Road,
Karachi. 75350 Pakistan
Tel: +92 21 4539701 / +92 21 4538837
Fax: +92 21 4524976
E-mail: jnaushahi@yahoo.com; ecrc@multi.net.pk



India

K. S. Kunwar

Air-Transport Working Group (ATG)

Associate Vice President Cargo,
Delhi International Airport (Pvt.) Ltd.
Cargo Terminal, IGI Airport, New Delhi - 110 037, India
Tel: +91 11 2560 1001
Fax: +91 11 2565 2399
E-mail: Ks.kunwar@gmrgroup.in



Pakistan

Azhar Majeed Khalid

Customs Working Group (CWG)

Collector, Model Collectorate of Customs custom House
Karachi, Central Board of Revenue, Government of
Pakistan
Tel: +92 21 9214160
E-mail: collector@paccs.gov.pk



Korea

Yong Jae Kim, Ph.D.

Supply Chain Working Group(SCWG)

Dean / Office of Public Relations, Department of
e-Business, Korea Polytechnic University
2121, Jungwang-Dong, Shihung-City, Kyonggi-Do,
429-793, Korea
Tel: +82 31 8041 0290 / +82 31 8041 0676
Fax: +82 31 8041 0299 / +82 31 8041 1307
E-mail: yjkim@kpu.ac.kr



2008 Working Groups Chairs



Singapore

Kamarudin Bin Tambi

Business Collaboration Framework (BCF)

Manager, Technology Development, CrimsonLogic Pte Ltd
31, Science Park Road, The Crimsonlogic Singapore
117611

Tel: +65 6887 7516

Fax: +65 6778 5277

E-mail: kama@crimsonlogic.com



Chinese Taipei

Karlson Hsia, Ph.D.

XML Working Group (XMLWG)

Director, Institute for Information Industry
8th Fl., 133, Sec. 4, Minsheng E. Rd.,
Taipei, 105, Taiwan

Tel: +886 2 2713 9000 ext.108

Fax: +886 2 2717 6510

E-mail: khhsia@iii.org.tw



Chinese Taipei

Perry Liu, Ph.D.

Security Working Group (SWG)

Director, Institute for Information Industry
No. 116, Fu-Yang St., Taipei 106, Taiwan

Tel: +886 2 2739 1000 ext.103

Fax: +886 2 2735 9933

E-mail: pwl@iii.org.tw



Pakistan

Zahid Usman Jamil

Legal Working Group (LWG)

LL.B (Hons.) UCL., (LON.) Barrister-at-Law
219-221, Central Hotel Annexe

Abdullah Haroon Road, Karachi, Pakistan.

Tel: +92 21 568 0760 / +92 21 268 5276

Fax: +92 21 565 5026

E-mail: zahid@jamilandjamil.com

www.jamilandjamil.com

2008 Working Groups Chairs



Kenji Itoh

Acting Chair, Awareness and Education (AEG)

850-180, Haneno, Tonemachi, Kitasoma-gun,
Ibaraki Pref., Japan

Tel: +81 297 94 2985

E-mail: kenji412002@yahoo.co.jp

Japan



Associate Members



Malaysia

Amiruddin Abdul Aziz

2008 Chair of Pan-Asian E-Commerce Alliance (PAA)

Executive Director, Dagang Net Technologies Sdn Bhd
20th Floor HP Towers, Jalan Gelenggang, Bukit
Damansara,
50490 Kuala Lumpur, Malaysia
Tel: +60 3 2723 2723
Fax: +60 3 2723 2747
E-mail: amir.aziz@timegroup.com.my

Ms. Grace Wong

PAA Secretariat

Tradelink Electronic Commerce Limited
Direct: +852 2599 1671
Fax: +852 2599 1720
E-mail: grace.wong@tradelink.com.hk

AFACT Member Organization		
Locations	Organization	Contact Information
Afghanistan	Afghanistan Customs Department 	Address: Afghan Customs Department Jalalabad Road, District 9, Kabul Afghanistan Tel: +93 210 34 38 E-Mail: acd@customs.gov.af Website: www.customs.gov.af
Australia	Applied Electronic Commerce 	Address: 30 Tivendale Rd (P.O.BOX 46) officer Victoria 3809, Australia. Tel: +61 3 5943 1022 Fax: +61 3 5943 1023 E-Mail: aec@aecommerce.com.au Website: www.aecommerce.com.au
Cambodia	IIC University of Technology 	Address: 441 Monivong Blvd. P.O.Box 2535 12258 Phnom Penh 3, Cambodia Tel: +855 23 216331 Website: www.iic.edu.kh
India	Ministry of Commerce and Industry 	Address: Room No. 263-B, Udyog Bhavan, Rafi Marg, New Delhi, India Tel: +91 11 2306 2261 ext 520 Fax: +91 11 2306 3418 E-mail: rkarora@nic.in Website: http://commerce.gov.in
Iran	Ministry of Commerce Deputy Ministry for Planning and Economic Affairs 	Address: 8th Fl. No. 240-North Kargar St. Tehran – Iran, 1418693983 E-mail: info@irtp.com Website: http://prd.moc.gov.ir/eng_index.asp



AFACT Member Organization		
Locations	Organization	Contact Information
Japan	<p>JASTPRO</p> 	<p>Address: Yaesu No.5 Nagaoka Bldg. 2-29-11, Hatchobori Chuo-Ku, Tokyo 104-0032, Japan Tel: +81 3 3555 6031 Fax: +81 3 3555 6032 E-mail: jastpro@jastpro.or.jp Website: www.jastpro.org</p>
Korea	<p>KIEC</p> 	<p>Address: 6F, Textile Center, 944-31, Daechi-Dong, Kangnam-Gu, Seoul, Korea 135-713 Tel: +82 2 528 5800 Fax: +82 2 528 5719 E-mail: webmaster@kiec.or.kr Website: www.kiec.or.kr</p>
Malaysia	<p>MAMPU</p> 	<p>Address: Level 6, Block B2, Prime Minister's Department Complex Federal Government Administrative Centre 62502 PUTRAJAYA, Malaysia Tel: +603 8888 3200 / +603 8888 2480 / +603 8888 3163 Website: www.mampu.gov.my</p>
Mongolia	<p>MONPRO</p> 	<p>Address: J.Sambuu Str.11, Ulaanbaatar 38, Mongolia. Tel: +976 11 324 394 Fax: +976 11 324 620 Website: www.mongolchamber.mn</p>

AFACT Member Organization		
Locations	Organization	Contact Information
Pakistan	<p>Pakistan ECRC</p> 	<p>Address: 2nd Floor, Nabika Square, G-5, Central Commercial Area, Off Shaheed-e-Millat Road, Karachi 75350, Pakistan Tel: +92 21 453 9701 / 453 8837 Fax: +92 21 452 4976 E-mail: info@ecrc.com.pk or ecrc@multi.net.pk Website: www.ecrc.com.pk/home.htm</p>
Philippines	<p>Bureau of Export Trade Promotion</p> 	<p>Address: Ground Floor, Department of Trade and Industry-International 375 Sen. Gil J. Puyat Ave. Makati City Philippines 1200 Website: http://www.dti.gov.ph</p>
Saudi Arabia	<p>SaudiEDI</p> 	<p>Address: P.O.Box 9717, Riyadh 11423, Saudi Arabia Tel: +966 1 4774488 Ext# 3222 Fax: +966 1 4 742693 E-mail: FSMousa@SaudiEDI.com Website: http://www.SaudiEDI.com</p>
Singapore	<p>SNS</p> 	<p>Address: 31 Science Park Road, The Crimson, Singapore 117611 Tel: +65 6887 7516 Fax: +65 6778 5277 E-mail: secretariat@sec-edi.org Website: http://www.sec-edi.org</p>



AFACT Member Organization		
Locations	Organization	Contact Information
Sri Lanka	<p>ICTA</p> 	<p>Address: 160/24, Kirimandala Mawatha, Colombo 5, Sri Lanka Tel: +94 11 236 9100 Fax: +94 11 236 9091 E-mail: info@icta.lk Website: http://www.icta.lk</p>
Chinese Taipei	<p>TEC</p> 	<p>Address: 8F., No.133, Sec. 4, Minsheng E. Rd., Taipei, Taiwan Tel: +886 2 2713 9000 E-mail: tec@ideas.iii.org.tw Website: http://www.twtec.org.tw</p>
Thailand	<p>MICT</p> 	<p>Address: 89/2 Moo 3 TOT Bldg #9, Chaeng Wattana Road, Laksi, Bangkok 10210, THAILAND Tel: +66 2 568 2626 Fax: +66 2 568 2604 Website: http://www.mict.go.th</p>
Viet Nam	<p>MOIT</p> 	<p>Address: 21-25 Ngo Quyen Str. Hoan Kiem Dist. Hanoi Viet Nam Tel: +84 4 2005398 Email: bitec@mot.gov.vn Website: www.mot.gov.vn</p>

2008 Members Progress Reports

Cambodia Progress Report
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CAMBODIA Progress Report



IIC University of Technology

2008 Members Progress Report : CAMBODIA

1 EXECUTIVE SUMMARY

Cambodia now has a national development strategy which identifies key priorities, and human resource development figures prominently in all of them. While not perfect in terms of clear prioritization, monitoring or expenditure frameworks, it must be the foundations for all subsequent work. Building on what exists nationally needs to also take account of what exists regionally and more so in Distance Education because of set-up and maintenance costs. These include harmonizing approaches in the education sector, investigating the potential for expanding regional technical and vocational education training (TVET) programmes and delivering specific studies and scholarships on regionalism so on and so forth. To possibly launch DE, it is required Information and Communication Technology (ICT), which is the inevitable implementation tool of DE.

“Our current policy and strategies on ICT in the education system remarks a sensitive challenge of the Cambodian Ministry of Education, Youth and Sport (MoEYS) to reform its delivery services effectively within a new context of universalization” Senior Minister and Minister, Ministry of Education, Youth and Sport expressed in the Policy and Strategies on Information and Communication Technology in Education in Cambodia (2004). He further stated, “MoEYS is firmly convinced that this ICT in education policy will certainly contribute to creation of more pools of qualified human resources for Cambodia.” From this perspective, it is a clear guidance to the reader that the educational development can be carried out through ICT, especially in the form of Distance Education (DE). According to Policy and Strategies on ICT in Education in Cambodia (2004), the Distance Education will provide Cambodian students (1) educational opportunities in dispersed locations where conventional schools are not viable, (2) a choice to learners of what, when and where they want to learn, (3) a safety net to school drop-outs to continue their education and (4) an education to those who want to combine work and learning.

Strongly reinforcing the above policy, the recommendation from the Current Status of DE in Cambodia (2005) has reiterated the practicalities of DE situation experienced first by Cambodia. It is the fact that DE program is the modern educational system facilitating students' learning without reference to time and place. This is advantageous for the students residing far away from school. Furthermore, the program has provided equal educational opportunities and qualities to the students living in the provinces, especially in the far-flung-remote areas. This chance was not available in the past, thus leading to the shortage of human resources in Cambodia. Therefore, DE program will surely contribute to the development of human resources.



As concerned DE, the educational services will be delivered through printed media as well as an interactive multi media, including radio, television, mobile phone, Internet and e-mail. The Ministry of Education, Youth and Sport intends to set up its own Education Radio and Television within the EFA time frame.

The following domains will be presented in this report respectively. The purpose of the presentation is to see room for the implementation of Cambodia Distance Education in its relation to ICT and to see HRD through DE.

General Information: Cambodia is a developing country with the population living in the countryside far exceeding that of the urban. At present, Cambodia is in the position of immense challenge development in all fields, especially in the field of education which has been viewed as the way of developing pool of human resources responding to the increasing demand of the labor market. In the education sector, the government place centre on ICT and DE in developing human resources countrywide. This is the synthesis of two government's documents: Political Platform and the Rectangular Strategy of the Royal Government of Cambodia.

Human Resource Development: HRD is the heart of the implementation and formulation of development plan. Human resources should be developed throughout the country so as to make good use of the intelligence of all. In this respect, Distance Education, providing access to education countrywide, will play an important role and have important bearing on the socioeconomic development.

Information and Communication Technology: Cambodia has considered the policy to adopt ICT as a part of socioeconomic development. The Government has promoted the establishment of the ICT infrastructure through encouraging public and private investment in the sector so that the country can possess the adequate network to improve the country development activities. Also, through this ICT and ICT infrastructure development, the road will be paved for DE which is part of the government educational policy to promote and increase the educational opportunities for those students living in the countryside. So, based on the actual ICT situation and ICT specific policy of the Royal Government of Cambodia, it is hoped that DE will be possibly implemented successfully in Cambodia.

Distance Education: Since the first DE in Cambodia has been launched only by the International Institute of Cambodia (now Phnom Penh International University), the report will only raise the best practice of and the challenging to the implementation of IIC's DE. Cambodia DE is the modern educational system facilitating students' learning without reference to time and place. This is advantageous for the students residing far away from school. The program has provided equal educational opportunities and qualities to the students living in the provinces, especially in the far-flung-remote areas. This chance was not available in the past, thus leading to the shortage of human resources in Cambodia: therefore, the DE program will surely contribute to the development of human resources. DE is so

innovative in Cambodia that there were some obstacles around the courses. Not with standing hardship and difficulty, we have persisted with our efforts to develop from day to day this program. This is in accordance with the Government's policy of ICT in education and in developing the human resources, thus leading to the poverty reduction.

Recommendation: To develop pool of human resources, DE should be initiated and enhanced. To launch DE in Cambodia successfully and productively, it is recommended that there should be assistance from the outside partners and a consideration should be revisiting the challenge implementing first DE by International Institute of Cambodia. For any chance of the second time Cambodian DE (second project of PANdora), **Phnom Penh International University** (formerly International Institute of Cambodia) in Phnom Penh should be provided opportunity to act upon the experience earned during the first time to improve the second time and **Maharishi Vedic University** in Prey Veng province has been recommended to be a partner. According to the first PANdora project, it is recommended to develop DE successfully requires building awareness to the technology, improving access, creating application for DE processes, and training for its use.

2 GENERAL INFORMATION

The Kingdom of Cambodia is situated in Southeast Asia. It has three neighbors: the People's Democratic Republic of Laos to the north (540 km), Thailand to the north and the west (805 km), and Vietnam to the south-east and the east (1,270 km). In the south and south-west of Cambodia, the Gulf of Thailand forms a natural border.

Cambodia covers a land area of 181,035 square kilometers. Cambodia is a small, predominantly rural country of 13.1 million people, with per capita income of \$ 280. As a result of decades of conflict, international embargo, and post-war population growth, the development challenge is immense (see Cambodia Seizing the Global Opportunity Investment Climate Assessment & Reform Strategy by World Bank, 2004, p. i).

2.1 Strengthening the Quality of Education

(Political Platform of the Royal Government of Cambodia for the Third Legislature of the National Assembly)

The primary goal in education is to improve the skills and science that response effectively to the demand of labor market with entrepreneurship, high creativity, high responsibility, good discipline, morality and virtue, and professional ethics, gentle personality and honesty in order to promote national development.



The royal Government will continue to achieve “Education for All” by ensuring equity for nine years basis education for every child and facilitating all the favorable conditions in order to allow the children from poor families to attend schools, especially by strengthening and expanding public educational Institutions and increasing scholarships for poor students. The Royal Government will continue to strengthen the partnership with private sector and national and international communities in order to increase and upgrade the quality of educational services at secondary level, professional and vocational training and higher education to comply with international standards and the demand of national development.

The Royal Government will continue to increase budget expenditure and to mobilize more foreign aids to subsidize teachers, to ensure training quality, to increase the supplies of study materials, libraries and laboratories, and to establish dormitories for students, especially female students. The Royal Government will continue to push for curriculum reforms, to provide scholarships to poor students, to channel budgets for building rural schools and for running other academic institutions and to promote literacy and informal education programs.

2.2 Development of Information and Communication Technology

(Rectangular Strategy of the Royal Government of Cambodia addressed by Prime Minister Hun Sen)

The Royal Government will further develop an efficient and world class posts and telecommunications system incorporating advanced information technology, paying close attention to cost efficiency, modernization and nation-wide coverage, through the implementation of the following measures:

- Further promotion of investment in backbone infrastructure for information and communication technology, especially high-speed optical fiber cable, which will also contribute to the development of rural telecommunication systems.
- Establishment of comprehensive telecommunications networks in Phnom Penh, Sihanoukville and Siem Reap, while expanding telecommunications services into the smaller cities and towns.
- Adopting national guidelines on investment plans and cooperation for telecommunications facilities, services and information technology, including standards and regulations on the use and practice of information technology and use of the internet.
- Strengthening the postal network and its institutional capacity to improve services.
- Expanding radio and TV broadcast networks to improve efficiency and to facilitate information and postal services.

The Royal Government will enhance the implementation of an open policy in promoting private sector participation in information and telecommunication technology without discrimination, consistent with Cambodia's commitments and obligations as a member of the WTO.

3 HUMAN RESOURCE DEVELOPMENT

Cambodia is a developing country requiring skilled people who will be involved in the formulation and implementation of the country's socioeconomic development plan. Since Cambodia's entry into WTO, free market and globalization, socioeconomic activities have flourished to some extent—resulting in the demand of human resources. The development of the Cambodian human resources can be neither done nor planned well if we take into account some parts of the country, especially in the capital city of Phnom Penh. It is recommended that education, especially higher education, be provided to all people countrywide. If not, it means we try to bury the intelligence of those in the countryside which is the country precious human resources with important bearing on the development of the country as a whole.

Since 1998, higher education in Cambodia has rapidly expanded through embracing a strategy of public/private partnership. Private universities have increased each year during that period, and the nation now has more than 30 universities including both public and private institutions. All of Cambodia's universities employ traditional face-to-face, classroom-based delivery. All these universities mainly exist only in the key cities and provinces, especially Phnom Penh. So, it is a critical decision for those students who are living in the rural areas and are busy with their work, but wanted to upgrade their skills. Furthermore, some students have the capacity to pursue their higher education upon graduation of high school, but they cannot afford living in Phnom Penh due to social situation and living cost.

Therefore, to reduce the educational gap between the cities and the countryside, some modes of educational delivery should be brought into existence, that of Distance Education. The finding of the first PANdora project further reinforces the significance of DE that it is important for Cambodia to use DE methods in upgrading their educational system, in reducing the educational gap between cities and remote areas, and in proving increased study opportunities for rural workers and busy people. DE is relatively new to Cambodian people. In early 2005, DE was introduced for the first time in the country, by the International Institute of Cambodia (IIC) in Phnom Penh, providing and promoting tertiary education in Cambodia. This pioneering work was conducted with the joint support of agencies including the IDRC, the Asia Foundation (TAF), and the United States Agency for International Development (USAID), the Internews Network and SDlearn.net (see the introduction of first PANdora project report, 2007).



The implementation of DE in Cambodia, though facing some technical, financial and situational problems, can be carried out successfully and productively referring to the current status of ICT in Cambodia, and ICT and DE specific policy put forth by and the commitment of the Royal Government of Cambodia, and the first experience of IIC's DE.

All in all, it is imperative that DE should exist in Cambodia, which means that we try to translate the policy and commitment into reality and to increase the equal educational opportunities throughout the country. It is hoped that through the increasing emergence of ICT from which DE can take advantages, a pool of human resources will be created.

4 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

Information & Communications Technology (ICT) is new to the Cambodia society. The Royal Government of Cambodia (RGC) is supported to shift to new IT development paradigm. In the long run, key factors of production will shift from land and natural resources to information, knowledge and innovation embodied in Cambodia's human capital. In other words, knowledge, skills and expertise of the Cambodian people will become increasingly crucial to the country's future economic growth. Extensive economic growth and development will be gradually giving way to intensive economic growth. This type of growth requires more values added from ideas and innovation. Thus, the RGC has endeavored to promote the use of modern technology in Cambodia to enable the country to respond to the current needs in all sectors, including the development of ICT.

4.1 Policy of ICT in Education

The Ministry's articulation of the policy for ICT in education focuses on four main areas:

- The **first area** is provide access to ICT for all teachers and students, especially at secondary level, ensuring that ICT is used as an enabler to reduce the digital gap between Cambodian schools and other schools in neighboring countries.
- The **second area** emphasizes the role and function of ICT in education as a teaching and learning tool in different subjects, and as a subject by itself. Access to information on the Internet and increased communication, via email, between schools and individuals can play an important role in the professional development educators. In addition to radio and television as a teaching and learning tool, this policy stresses the use of the computer for accessing information, knowledge, skills, and communication.

- The **third area** is to promote for all regardless of age, gender, ethnicity, disability or location through distance education and self-learning, especially for deprived children, youth and adults who lack access to basic education, literacy and skill training, by integrating ICT with radio, television, printed materials and another media.
- The **fourth area** emphasizes using ICT to increase productivity, efficiency and effectiveness of education management. Through the use of information management systems, ICT will be extensively used to automate and mechanize work such as the processing of student and teacher records, communication between government and the processing of student and teacher records, communication between government and schools, lesson planning, assessment and testing, financial management and the maintenance of inventories.

4.2 Strategy for Promoting the Use of ICT in Education

4.2.1 Medium-Term Objectives

The medium-term objectives for the period 2004-2010 are:

- a) To build ICT infrastructure and provide hardware for education and training. This includes computer rooms and networks (local, intranets and Internet). Computer will be provided in educational institutions, secondary schools, colleges, universities, municipal/provincial education services and precinct/district education offices, community learning centers. Ministry of Education, Youth and Sport (MoEYS) departments, municipal/provincial education services and precinct/district education offices will be linked together providing access to various databases and resources for educational management.
- b) To develop human resources to meet the needs of ICT and education sectors.
- c) To promote innovative thinking, communication, problem solving skills, research and information retrieval and processing skills by using ICT as tool in teaching and learning.
- d) To increase efficiency in administration by using ICT for educational management through the use of tool such as information management system.

4.2.2 Medium Term Strategies

Human Resource Development

- a) In higher education, public and private, establish a range of course for ICT professionals



- b) In teacher training institutions, train all teacher trainers in the use of ICT for administration and professional development. In addition, train teacher of secondary school teachers to become ICT literate so that they can use of ICT for supporting teaching and learning.
- c) Update the curriculum for training of primary school teachers to include the use of ICT for administration and professional development
- d) Update the curriculum for training of secondary school teacher to include the use of ICT for administration, professional development and as a tool to support teaching and learning.
- e) Promote ICT-based research activities and independent and lifelong learning in every education institution.
- f) Train at least one member of staff from each of all educational institutions in computer maintenance and repair.

Hardware and Infrastructure

- a) Equip all teacher training colleges and universities with the necessary hardware and infrastructure to allow teachers and students to access to computers and the Internet. Provide budget for repair and maintenance.
- b) Provide power supply to all secondary schools and equip them with the hardware to give students access to computers, radio and TV for learning. Available resources should be used to the full capacity. For example school computer rooms should also be used by the community and out-of-school children.
- c) Provide mobile ICT learning (m-learning) services to deprived areas where electricity and connectivity is not available.
- d) Promote the use of community learning centres, community information centres and communities libraries. Expand activities to include the use of video, radio and TV for learning. Work with NGO partners to provide more facilities for out of school youth.
- e) Set up an education TV station and a radio station and managed by well trained staff to serve the education system.
- f) Where possible, provide power supply and the Internet connection to secondary schools.

Development of Local Contents, and Use of Open Source Software

- a) Encourage the use of open source software such as Linux and star office. Open

source software refers any software, which may be copied and used freely, with little or no copyright restrictions.

- b) Promote the development of content in Khmer for both formal school and distance education and equivalency programs by providing an annual award for the best teaching and learning resources submitted to the National Clearing House.
- c) Promote the development of the Operating System in the Khmer language which will greatly facilitate all literate people in Cambodia to use ICT use communication and learning.

Use of ICT in Schools

- a) In secondary schools, promote the use of ICT to enhance the quality of teaching and learning, initially in science, foreign languages, social science and math
- b) Modify the secondary curriculum to include suggestions for use of ICT where available for teaching of science, foreign languages, social sciences and math. The curriculum should also encourage the use of technologies such as VCDs video and audiotapes, radio and television.
- c) Offer ICT as a life skill course where resources permit.
- d) The use of ICT in schools should abide by an ethical setting to response to the four pillars of the national education system.

Knowledge Management System

- a) Set up an online National Clearing House for teaching and learning resources in Khmer and foreign languages.
- b) Ensure the links to useful educational portals and websites, collection of teaching and learning resources prepared by teachers and other professionals, and collections of freeware and shareware software for free download, which are available in Cambodia and on line worldwide.

ICT Applications for Open Schools and Distance Education

Given the fact that only 20% of the children aged 12-15 has access to secondary school in 2004, The Ministry will promote the application of ICT for expanding access to primary and secondary education through "Open Schools". Open schools, Distance Education or Equivalency Education, will be created under the current Education Sector Support



Programme (ESSP) five year plan (2004-08) to provide:

- a) education opportunities in dispersed locations where conventional schools are not viable.
- b) a choice to learn of what, when and where they want to learn;
- c) a safety net to school drop-outs to continue their education
- d) an education to those who want to combine work and learning

The educational services will be delivered through printed media as well as an interactive multimedia, including radio, television, mobile phone, Internet and e-mail. The Ministry intends to set up its own education Radio Television within the Education for All (EFA) timeframe.

ICT Use in Universities

Since Cambodia is in serious shortage of well-trained lecturer and professor, it is essential that the universities must use its scarce human resources to their full capacities through ICT as well as connecting learner to virtual learning resources worldwide. The Ministry will promote the use of ICT in teaching and learning process, research and administration by creating a cyber campus consortium and linking this to other virtual universities in other countries. It will also promote the digitizing of Khmer language book and translating of foreign core books into Khmer.

Cooperation and Partnership

- a) Promote cooperation with national, non-governmental and international organizations and charity individuals inside the country and abroad to give a thrust to the development of ICT in education.
- b) Build partnership with civil societies and private entities inside the country and abroad to share ICT resources to minimize digital gaps in the region.

4.3 Current Status of ICT in Education

Education Strategic Plan (ESP) 2004-08

In its ESP and ESSP 2004-08, MoEYS refers to the role of ICT in improving quality and access to education in Cambodia:

“A cross-cutting strategy for enabling ESP policy implementation will be increased use of Information and Communication Technology (ICT) guided by MoEYS’s new policy approved in 2004.

A priority will be to strengthen ICT-based information management at all levels as part of decentralization measures. Access and quality improvement will be supported by ICT-based distance learning opportunities (e.g. distance Masters, teacher development), selective introduction of computer awareness programs into upper-secondary schools and post-secondary institutions. Where it is appropriate, the Ministry will draw on capacity of private sector for multi-media programme planning and delivery, including for its expanded IEC programme and for HIV/AIDs awareness raising.”

4.3.1 ICT Developments in Teacher Training

The Ministry is committed to promote the use of ICT in education. All students in teacher colleges are required to attend 2 hours per week in ICT courses, starting in 2003.

The number of computers in teacher training institutions increased dramatically during the year 2003. Some of these computers have come from Priority Action Plan (PAP) budget and some from donations from different sources. The recent increase in computer numbers has been significant and all colleges now have a computer room. In 2003 the average student: computer ratio in Regional Teacher Training Centres (RTTCs) and Provincial Teacher Training Colleges (PTTCs) was 65:1. In 2004 the ratio has been reduced to 32:1. This has enabled colleges to start their courses in ICT.

Not all colleges have enough computers to run ICT courses effectively and some have problems with power supply for example having to rely on a generator or having to turn off all other electrical appliances in the college while the computer room is in use.

By early September 2004, more than half of the total 600 teacher trainers had attended training courses in basic ICT skills and in using ICT for administration, teaching and learning. One teacher trainer from each college has been trained in basic web-site design and their web-pages also published in the MoEY’s website. Another group of teacher trainers from regional teacher training centres and the National Institute of Education were trained in production of web-based and audio-visual educational resources in Khmer language and also received training in computer maintenance and minor repair in 2004.

An ICT curriculum for provincial teacher training colleges (PTTCs) and regional teacher training centre (RTTCs) is under development. This will include the use of ICT in administration and for professional development and for making teaching resources. At secondary level it will also the use of ICT to enhance subject teaching.



4.3.2 ICT in Higher Education

The change to a market economy since 1993 has facilitated the growth of private higher education establishments of varying size and quality.

Some of the most popular courses offered are in ICT related subjects, foreign languages and business. Most of these colleges are in urban areas and have good ICT facilities and Internet connection.

□ **Table : List of Higher Educational Institution (Source : MoEYS)**

Higher Educational Institutions	Public/Private
University of Health Sciences	Public
Institute of Health Sciences of Royal Khmer Army Force	-
Institute of Technology of Cambodia	-
Royal University of Phnom Penh	-
Royal University of Agriculture	-
R.U of Law & Eco.Sciences	-
Nat. Uni. Of Management	-
Maharishi Vedic University	-
Nat.Institute of Education	-
U. of P. Sihanouk Raja Buddhist	-
Inst. Of Economic & Finance	-
University of Military Officer	-
Nat.Sch.of.Agri.Kampong Cham	-

Nat.Sch.of Agri. Prek leap	-
University of Svay Rieng	-
Royal University of Fine Art	-
Phnom Penh International Uni.	Private
Build Bright University	-
Norton University	-
Asia Europe University	-
Mekong University of Cambodia	-
University of Cambodia	-
Pannasastras University	-
University of Human Resource	-
City University	-
Cambodia University for Specialist	-
Sovannapum University	-
Western University	-
Wanlan University	-
Banana Center	-

4.3.3 Non-Formal Education and Distance Learning

Progress in developing ICT infrastructure and content in Khmer for non-formal education and distance learning has been made mainly by NGOs and private institution. Notable examples include 22 community information centres providing low-fee Internet access in rural

and urban areas. Few schools in remote areas are using solar power and satellite links. International Institute of Cambodia (IIC) used to provide eLearning courses to 10 provinces in Cambodia under the support of USAID, the Asia Foundation and InterNews.

Due to lack of infrastructure, a large number of rural Cambodians receive information mainly through radio and television and this has yet to be fully exploited for use as educational media.

4.4 Recent Status of ICT in Cambodia

4.4.1 Telecommunications Sector

The Cambodia' information and telecommunications sector can be divided up in the following sub-sectors: telephone, cable, satellite, broadcasting and print/media. In accordance with the RGC's policy, the telecommunications sector has witnessed more private sector involvement than any other infrastructure industry. To date the Ministry of Post and Telecommunications (MPTC) has issued five mobile licenses and one international gateway license to private companies and recently completed a 10 year co-operation agreement with another private company for the operation of the primary international gateway.

Despite the involvement of the private sector in almost all aspects of operations, telecommunications in Cambodia can also be described as the area of Cambodian infrastructure with the greatest degree of centralized control. A single central government agency, the Ministry of Post and Telecommunications, shares in the ownership of all mobile services, the fixed line network and the international gateways. It also sets telecommunications policy and acts as the regulatory agency.

Cambodia's telecommunications sector has seen rapid change during the last decade. There were approximately 3,000 working lines in 1993 and over 100,000 in 2000. Four mobile companies offer services and internet access is now available even in provincial towns. However, the combined fixed and mobile penetration rate is currently only around 12.9 per 100 inhabitants. This is low by both regional and international standards. The low fixed network penetration rates are due to the collapse of the network during the period 1975 to 1990. Recent increase in fixed network coverage has come about through investment under foreign assistance and has mainly benefited Phnom Penh. Geographical coverage has not increased significantly.

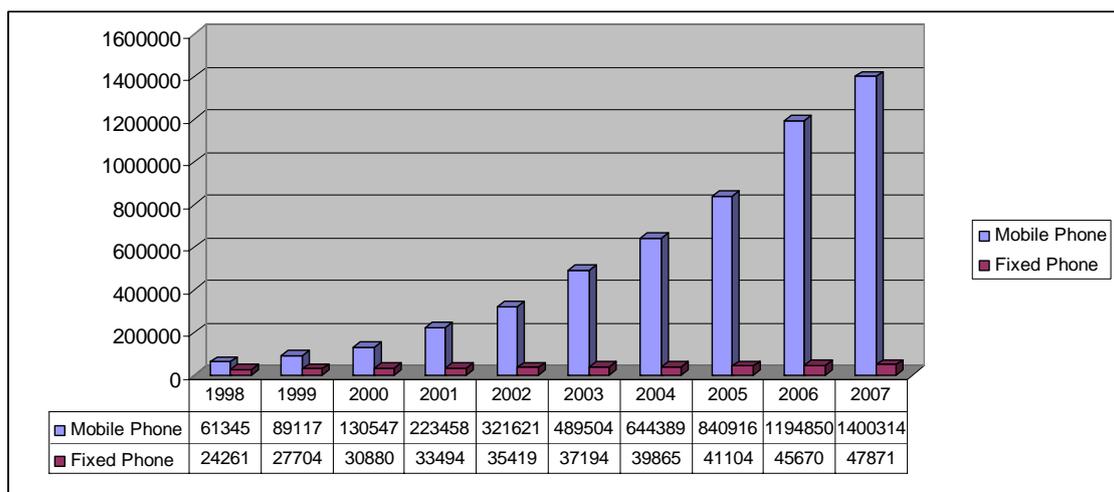
There are **9** operators in Cambodia providing types of systems.

□ **Table : Telephone Operators**

Service	Number of Operators	Name of Operator	Note
Fixed Line	3	MPTC	In Phnom Penh and 8 provinces
		Camintel	Provinces + WLL in Phnom Penh
		Camshin	WLL in Phnom Penh
GSM Cellular	4	Camshin	GSM 1800
		MobiTel	GSM 900
		Casacom	GSM 900
		Star-Cell	GSM 900
Analog Cellular	2	Casacom	NMT-900
		Camtel	AMPS-800 network in Phnom Penh

(Source : ITU and MPTC)

< **Figure : Number of Telephone Subscriber** >



(Source : ITU and MPTC)



4.4.2 Internet Availability

An estimation of Internet users in Cambodia is roughly 13,000 and most of them are mainly in Phnom Penh and Siem Reap. There are plenty of Internet Cafés throughout Cambodia. This business as well are mostly located in Phnom Penh, Siem Reap, Sihanoukville and a small number in the other tourist centres. A recent survey identified at least a few one Internet access point each in the provincial capitals. Most of these offer not only web and e-mail access but also VOIP at very low costs. Although VOIP was declared illegal by the Ministry of Posts and Telecommunications (MPTC) so far it is not being consistently suppressed. Internet Cafés are frequented not only by foreign tourists, but also by many Cambodian students, male and female. As there are not many systems available that can handle Khmer fonts, a certain level of knowledge in the English language is a prerequisite for accessing the Internet. Two Cambodian youth and student organizations were among the earliest users of email systems in Cambodia in 1995.

Technical availability and economic availability are, however, two quite different realities. With a monthly salary of around US\$30 for high school teachers, ICTs stay for many outside of their financial possibilities. The economic gap between the urban and the rural population is strongly reflected in the gap in telephone lines and Internet access.

No one know for sure of the numbers of Cambodian related website registered in the generic or other countries top level domain such as .com, .net, .org etc. Cambodia is also providing domain registration to the public with generic top level domain and found out that any good and reputable names were already taken such as Cambodia, Khmer, kampuchea, provincial town name, Angkor, apsara, bayon etc. Domains are available with in long and unique name format. The numbers registered with non-kh, we are guessing they are well over 1,000 domains considering a fact that the Cambodian population living abroad and Cambodian living here who are not qualified to register, want non-kh, or for any reason. There are roughly 250 registered with under KH which as administered by DNS at the MPTC. Domains registered worldwide is roughly 33 millions and mostly are in dot com.

4.4.3 Mobile Communications

Cambodia is the first country in the world where mobile phones outnumber the fixed lines. The ratio is very high with more than 10 out of telephones users are mobiles¹. Used mobile phone set available as low as \$15, each SIM card costs between \$8 and \$10 depending on mobile operator and prepaid card with denominations with little as \$5, mobile communication is very affordable.

□ **Table : Telecommunication Service Providers**

Name	Est. Year	Services
MPTC/Camnet	1993	Fixed phone, international gateway
Casacom	1992	900 GSM – Mobile. Also known as Samart
Camtel	1992	Analogue Mobile Phone (very few subscribers)
Camintel	1993	Fixed phone and wireless local loop (WLL)
Tricelcam	1993-1999	Analogue mobile phone. Now closed
Camshin	1993	Wireless local loop (WLL). Future will be CDMA fixed wireless.
Camshin	1998	GSM 900 – 1800 mobile phone
CamGSM	1997	GSM 900 – 1800 mobile phone
Star-Cell	2007	Mobile phone

(Source : Cambodia Draft ICT Policy)

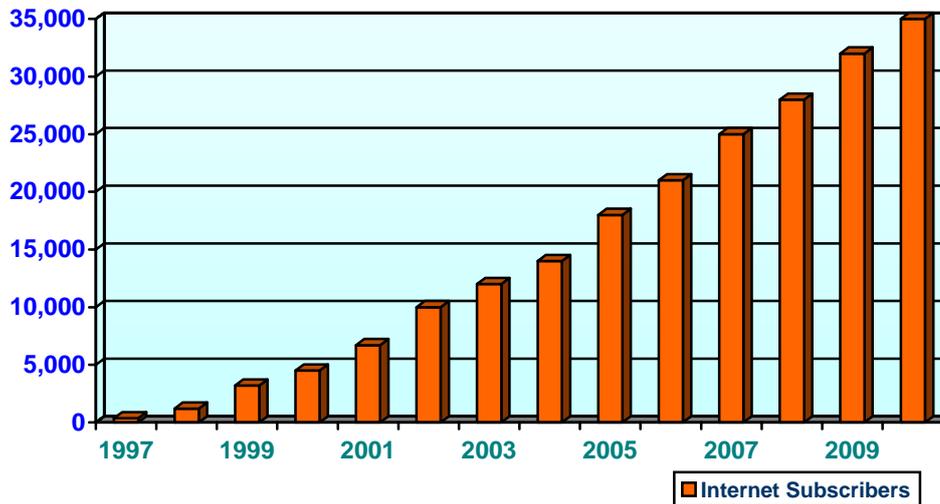
4.4.4 Internet

Currently, all ISPs are regulated under MPTC. There are fifteen ISPs operating in Cambodia, namely CAMNET (May 1997), Online (June 1997), CAMINTEL (1999), MOBITEL (2001), CAMSHIN (2002), SAMART (2002), City Link, Angkor Net, Wicam, PPCTV, Telex, IPLC, Hiway, Wireless IP and Click Net. The total number of Internet subscribers is about 16,500 for the whole of Cambodia.

The ISPs connect to the Internet backbone using international satellite connection to various Asian countries as well as to the United States and Europe. However, Camnet has an optical fiber connection to the United States via the Communication Authority of Thailand (CAT). With the optical fiber connection to the Internet backbone, the quality of the Internet link is dramatically improved due to the very short latency compared to satellite-based links.



< Figure 1 : The number of Internet subscribers >



(Source : Cambodia draft ICT Policy)

4.4.5 Domain Name System (DNS)

MPTC is currently managing the Domain Name System (DNS) for Cambodia. This allows local companies to apply for the registration of the Cambodian .KH domain. (See table below)

Number of domain name registrations:

Table 1 : Domain name registration

Description	Current No.	Source
.gov.kh	63	MPTC
.edu.kh	38	MPTC
.org.kh	97	MPTC
.net.kh	8	MPTC
.com.kh	360	MPTC

4.4.6 e-Government

In August 2000, the Government of Cambodia has decided to establish the National Information Communication Technology Development Authority (NiDA) in order to handle the information communication technology vision. The Government of Cambodia desires to bring the government closer to citizens and vice versa through the computerization of its administration. The government has introduced the basic ICT application services since 1992 and steadily upgraded. As mentioned above, the Government has launched the e-Government project in the earlier 2001 in order to pursue its ICT vision. The project has scope to all ministerial bodies of the central governmental administration and the Phnom Penh Municipality only. It has brought all 27 ministries and Secretariats of State and the Phnom Penh Municipality, including the 7 districts and 76 communes into online. In addition, the project has introduced four dedicate applications including electronic approval system, resident information system, vehicle information system, and real estate information system. The project was officially opened for operation in October 2004. It is true that the project will not be success if there are not proper people who handle and use the system. The government, therefore, provides training the government official to have the proper skill and knowledge in handling the system.

4.4.7 Cambodia's e-Policies

Cambodia has an ambition to create conducive environment for ICT development, thus, the Government is drafting e-Policies and e-Strategies to address the human resource development and poverty alleviation. These national e-Policies are confirmed with the Millennium Development Goals that aimed to improve human capacity, living standard of citizens and the quality of the public services. The key policies focus on infrastructure, human capacity, enterprises, and contents and applications.

The ICT policy of the country, as is evident from the following statement made by the Prime Minister of the country rightly lays emphasis on "promoting the use of modern technology in Cambodia's e-mail systems to enable the country to respond to the current needs in all sectors, especially to the development of e-commerce. The top priority in the short run is to use ICT to serve and to meet the day-to-day needs of the people". ICT is envisaged to become an efficient means for the public to exercise their rights to get information related to the decisions made by the government and the conduct of government business in accordance with the principles of transparency and good governance. In addition, the country will build up its policies on information and communication technologies to directly or indirectly address human development and poverty alleviation in particular.

4.4.8 ICT Statistics

To have a proper ICT development policy or master plan, the ICT evolution and ICT current status in the country should be acknowledged. In other words, there should be a proper mechanism for ICT data collection and proper data should be available for policy makers and decision makers. In case of Cambodia, Statistics is decentralized. Each ministry or institution collects its own specific data. Regarding to ICT and Telecom data, there are four institutions responsible to collect data including National Institute of Statistics (NIS), Ministry of Post and Telecommunication of Cambodia (MPTC), Ministry of Information (MOI), and National ICT Development Authority (NiDA).

NiDA is playing role as policy maker and dealing with the eGovernment matter. NiDA collects data that mostly related to ICT of the governmental agencies and private sector in purpose to produce ICT development policy, master plan and action plan. Furthermore, MPTC collects all data related to telecom including telephony and Internet subscribers, ISPs, DNS, and Telephone operators through a systematic registration. However, MOI controls all televisions and media. NIS is also playing very important role in collecting all social and economic data. ICT data is collected through administration and survey, but this data is used as an asset counting not for other analytical purposes.

4.4.9 Human Resource Development in ICT

Cambodia's higher education system comprises five public universities, three semi-independent specialized institutes and six recognized private higher education institutes. Of these institutions, only the Royal University of Phnom Penh and Phnom Penh International University offer degree programs in ICT-related fields. About 500 to 800 persons per year graduate from these institutes, university and also Royal University of Phnom Penh offers an IT degree. Recently, the Cisco Network Academy Program, a partnership between NiDA, UNDP and Cisco Systems Inc., started to provide training in ICT. Also, a number of NGOs and private training centers are involved in capacity-building and ICT training. Thus, there are multiple actors involved in the generation of human capital for the ICT sector. The Ministry of Education, Youth and Sport is attempting to narrow the digital divide that exists in the different parts of the country. It plans to provide access to ICT for learning and communication for all regional, municipal and provincial teacher training institutions and eventually by 2015 to schools throughout the country.

Despite Cambodia's liberal approach towards FDI, there appears to be small foreign investment in human capital formation in general and ICT in particular.

Thus, there is an urgent need for scaling up the activities of all the actors and attracting more investment into the field of education. The Government might consider coordinating different actors as well as beginning a scheme of accreditation by NiDA or any other

competent authority.

4.5 Government Policy on the Use and Production of ICT

Today, almost all the countries in the world have either developed or in the process of developing a policy framework that govern the ways and means by which Information Communication Technology is harnessed for addressing different development issues. Given the fact that countries vary not only in terms of development needs but also in terms of their capability to use new technology, the form and content of the policies also is found to be varying from one country to another. One of the distinguishing characteristics relates to the emphasis that they give to ICT production versus ICT use, another one relates to the role of the state versus the market. It is often held that the job cannot be left entirely to the market, as the market is unlikely to be able to guarantee that the investment in information for citizens will meet all of society's needs. While countries, which are endowed with the human and physical capital to engage in the production of ICT goods and services, focus on both use and production of ICT, countries which are less developed tend to focus more on IT use with the implicit assumption that IT production is highly skill, capital and technology intensive and that it is beyond the reach of less developed countries. But, one of the major line of arguments that the present study tried to develop has been that the characteristics of ICT goods and services production are such that it is not impossible for many a developing countries to participate in the global production process of ICT if appropriate trade and investment policies are in place.

The ICT policy of the country, as is evident from the following statement made by the Prime Minister of the country rightly lays emphasis on "promoting the use of modern technology in Cambodia's e-mail systems to enable the country to respond to the current needs in all sectors, especially to the development of e-commerce. The top priority in the short run is to use IT to serve and to meet the day-to-day needs of the people". IT is envisaged to become an efficient means for the public to exercise their rights to get information related to the decisions made by the government and the conduct of government business in accordance with the principles of transparency and good governance.

Working towards leverage ICT for development requires sector development in parallel with greater adoption and diffusion of ICT. In looking at strategic areas to meet this aim, in 2003 the Royal Government of Cambodia identified and adopted a policy to use ICT as a potential enabler for national socio-economic and social development. This national ICT policy focuses on 5 core development agendas:

- Infrastructure development
- Policy environment
- Enterprise development
- Human capacity building development
- Contents and applications development



4.5.1 Infrastructure Development

According to the government draft ICT policy (2006), the Government recognizes the importance of a strong, reliable, ubiquitous telecommunications network as being the key to the development of the country in general, and ICT in particular. This network should provide efficient and affordable service for voice, data and video services through the width and breadth of Cambodia. All means available for space and terrestrial based systems will be used.

Despite great efforts by the Royal Government of Cambodia (RGC) to reconstruct essential infrastructures that were destroyed during the war, the country's telecommunication network remained severely underdeveloped due to financial constraints, lack of technical equipment and know-how, as well as the fact that the government prioritized support for other sectors. Although Cambodia now has one of the highest rates of mobile subscribers, Cambodia's ICT infrastructure, including domestic and international telecommunications, Internet penetration is still low and lagging behind international as well as regional standards.

Given the fact that ICT infrastructure is important for the increased use of ICT and the country's competitiveness, the policy aims at developing telecommunication infrastructure through the policy of liberalization, strengthening the authority responsible for the supervision and regulation and open access to instill fair competition. At the same time, the Royal Government of Cambodia is committed to provide incentives to attract investments in the telecommunications sector. The goal should be towards universal and affordable access to information and communications services, from anywhere in the country, anytime.

Furthermore, the draft ICT Policy stated that "the Government, through the Ministry of Post and Telecommunication(MPTC), will continuously install and upgrade reliable, modern and appropriate ICT infrastructure throughout the country. In order for MPTC to be a strong backbone for spreading and supporting plans of the Government for ICT, it will create policies, environment and support systems to help grow the network. ". The task is to build a broadband network that is multipurpose, based on a national fibre optic backbone. As technologies are converging and allowing for the opportunity of leapfrogging traditional mediums and modes, the focus should also be on developing a comprehensive IP system that is wide enough (100 Mbps or into the Gbps) that would deliver both voice communications and data.

Core Infrastructure 'rings' are needed for Cambodia - the capacity for voice, media and data services for the public and commercial sector would increase dramatically. It is expected that once the core infrastructure is in place then the operators are expected to request for access and the result will be a boom in the development of applications that can make use of this infrastructure, such as IP Telephony Services, video conferencing, high speed Internet and distance learning.

The government encourages the use of new technology such as IP-based technology and other modern technology for the creation and expansion of systems and networks in the country. The national broadband policy will be established and give the direction on which we can use the broadband technology to further develop the ICT in the country.

4.5.1.1 Expanding Internet Use

To allow further rapid growth of the Internet in Cambodia it is very important to be able to bring down the cost of the backbone connection to the Internet. Currently this high cost is a major impediment to providing a faster and lower cost of Internet services that would facilitate more widespread usage. Hence, it is important to connect Cambodia to the world via the existing submarine cables already laid in the Gulf of Thailand example Cable T-V-H. This will result in the substantial reduction in the cost of buying high-speed Internet connectivity to the rest of the world.

The TDM (Time Division Multiplex) based telecom infrastructure that is in used today in Cambodia will not be able to carry the bandwidth for the future growth of the Internet. This can be overcome with the introduction of very high bandwidth "IP" rings around the country that could economically carry the higher bandwidths that will be required if the Internet is to expand beyond Phnom Penh.

4.5.1.2 Establishment of the Khmer Network Information Centre (KHNIC)

According to the draft ICT policy the government will establish Khmer Network Information Center to deal with the DNS and registration. Cambodia currently does not have a national IP registrar, such as a Khmer Network Information Center (KHNIC), today all ISPs in Cambodia register directly to the Asia Pacific Network Information Center (APNIC) for IP addresses. These ISPs, Camnet, Online and CamGSM all apply directly to APNIC. This will change with the formation of KHNIC for the management of IP addresses. Second tier ISPs and government institutions connect directly and receive IP addresses from first tier Internet providers. With the creation of a suitable 'database server' KHNIC could serve all information and manage IP addresses locally for Cambodian Internet connections.

4.5.2 Policy Environment

In order to converge into a single economic market mechanism based on digitization and networking, the Government should make a radical change and adopt new required laws and regulations related to ICT development. The country should have laws and regulations



governing telecommunications and other ICTs, in order to facilitate the sustainable development in ICT and economic growth.

In the area of commerce and trade, the government should work towards enacting laws for e-commerce, digital signature and e-transactions/payments, intellectual property rights protection, cyber-crime and protection/preventions, network security, ICT taxation, cross-border disputes and consumer protection.

Creating a favourable environment for enterprise such as through tax and trade policies is instrumental in stimulating foreign and local investment in ICT – recommendations include the following:

- Duty free or reduce tax rates on imports of a number of key ICT products or reduce to tax rates, as incentives for ICT adoption and promotion.
- It is also highly recommended that the import tax for “data/ telecom/ information technology electronic equipment” be lowered to those levels found in countries neighbouring Cambodia. This again will only encourage operators to add more capacity and expand their networks in Cambodia.
- Allowing 100% foreign equity
- Tax incentives for ICT enterprises, especially SME

The government should consider offering tax incentives and financial backing to help develop a technology service industry. Through tax breaks and other financial support and strong commitment should encourage foreign-based companies to outsource part of their business or to develop their own business in the country. However, providing tax incentive alone would not help to boost investment much, the government also needs to consider reducing bureaucracy for doing business to attract capital investment.

According to draft ICT Policy the Government will put in place required regulatory frameworks for the relevant ICT sectors, including telecommunications, media, e-banking, e-commerce and information security sectors. And it will establish appropriate legal instruments to check and control indecent use of ICT such as spam, viruses, web squatting, fraud, copyright violation, denial of service, unauthorized entry, privacy infringements, misleading media content, and inappropriate broadcasting.

4.5.2.1 Ministries and Institutions Related to ICT Development

Currently, all ministries and institutions are more or less involved in information and communications technology. After the launch of the Government Administration Information System (GAIS) Project with a soft loan from South Korea government, all ministries and most governmental institutions are already networked. However, there are certain ministries that are

directly related to the process of ICT development in Cambodia. For instance, the Ministry of Post and Telecommunication (MPTC) directs and manages all post and telecommunications in Cambodia. The functions and responsibilities of MPTC are to provide the basic services of the post and telecommunications sector, to be the counterpart of service providers in post and telecommunication. It also provides licenses, regulates, standardizes, audits, and manages frequencies for all types of media. In addition, it is the single representative of Cambodia for all international counterparts and it is responsible for training and developing human resources in the post and telecommunication sector. The Ministry of Information is also one of the key organizations involved in ICT. This ministry regulates all types of media content and information. At present, there is no law on who is responsible and how to regulate content in websites but the Mol is assuming this role.

4.5.2.2 The Council for Development of Cambodia (CDC)

To coordinate, facilitate and attract investment, the Royal Government of Cambodia has established an institution as a one-stop-service office of the government, the Council for Development of Cambodia (CDC). It plays an important role in the rehabilitation and development of Cambodia. CDC cooperates with the relevant ministries and institutions in preparing the conceptual frameworks for rehabilitation and development, and in setting the priority needs of the country for the intermediate term, the short-term, the medium-term, and the long-term in order to prepare a rolling plan of action. It also cooperates with relevant ministries and institutions in preparing socio-economic and sectoral planning to develop Cambodia. It manages public sector investments in cooperation with the relevant ministries and institutions. This process is mainly related to the coordination and direction of the allocation and utilization of national resources and external aids with the aim of rehabilitating and developing Cambodia. In addition, it serves as the Focal Point of the Royal Government and donor countries, international organizations, and NGOs as well between ministries and other governmental institutions in the coordination of external aid allocation and utilization.

In addition, CDC studies the competitive advantage of Cambodia in the international market. It sets the vision for private sector investment in Cambodia and is mandated to turn Cambodia into "Cambodia, Inc". It also cooperates with relevant ministries and institutions to prepare strategies for private sector investments and to setup private investment projects. It promotes private sector investment projects which have been selected by the Royal Government.

4.5.3 Content and Applications Development

ICT development will not be successful if there are no end-users, and without content and applications, there will be no want for ICTs. To encourage users there should be good



content and useful applications that are relevant to their daily lives.

4.5.3.1 Use of Local Language

Since language is an important vehicle to promote development and ICT transfer and that the use of IT in Khmer language will open access to millions of people who will be able to benefit from these technological developments, the policy envisages the standardization of Khmer language in computers to improve efficiency and capability of this sector and facilitate communications at all levels. Local content and local products will be crucial to the successful and beneficial spread of ICTs. The government has a key role to play in setting the necessary standards, i.e. Unicode and other ICT standards for information interchange. While ad hoc solutions exist, standardization is crucial to ensure interoperability and reduce inefficiencies that will occur in the future. As technological changes are rapid and innovations require adjustments and new adoptions of standards, policies and mechanisms need to be in place to deal with standardization and localization issues in the long-run.

Localization of ICTs is crucial and the first step in the development of both content and applications. At present, the Government needs to promote the Unicode standard for Khmer; doing so will allow for the greater adoption and usage of ICTs

4.5.3.2 Television and Print Media promoting basic ICT awareness/skills

For the last two year, one local TV station (namely CTN Television) has been broadcasting Khmer language programmes on IT on a weekly basis. These programmes present computer hardware, software and information technology in an entertaining but informative fashion. With coverage to most of the provincial and capitals, the programme reaches out to adults and children who may not have been exposed to ICTs and computers in general.

In terms of print material available to the public, two separate Khmer language Computer Magazines are printed and distributed biweekly (ITCity Magazine) and monthly (CM Magazine) in Cambodia, and two phone magazines are printed and distributed biweekly (PhoneCity magazine) and monthly (Mobile Phone magazine). Each of these magazines presents informative news as well as 'How To' on current software and hardware available on the market. Reviews and news on local IT/Phone companies and seminars held in Cambodia are also advertised. These magazines are distributed to most provincial capitals, however, the cost is still too high (around USD 1.5 per copy) for any demand outside of the capitals.

Providing information on IT, either through print, television or radio programming, should

be a priority. Television is perhaps the best media to deliver information – there are television sets even in the most remote areas of Cambodia, let alone a typical household in the capitals.

4.5.4 Human Capacity development

The policy also envisages at developing computer literacy, as is the case with foreign languages, among Cambodians. Computer literacy is currently one of the most important tools that exist for communications, economic management, trade, domestic and international investment, as well as for knowledge accumulation and management expertise. This is true for every country in the world, and Cambodia is no exception to this. The most important direction is to include computer literacy in the curriculum of every secondary school, faculty and university throughout Cambodia.

ICT continues to penetrate and transform the organization of markets and workplace, creating a growing demand for technology and knowledge workers. The challenge is for all educational institutions to be able to adapt and prepare students for the digital economy and workforce. It is clear that basic computer literacy for all Cambodians is very important, but this should go hand-in-hand with the development of higher skills of learning such abstracting, planning, critical thinking and problem-solving among students must be nurtured in this most complex, competitive and highly flexible environment. A major impediment to the growth of Cambodia's ICT capability is simply the lack of quality ICT education. In the last three years approximately ten or more so called Technical Schools and or Universities have opened in Cambodia offering IT courses. These courses still cannot provide sufficient quality to students and hence graduate do maximize their potential capabilities and are often poorly equipped for the workforce. Therefore, it is highly recommended that the standard of the education being offered at the universities and technical schools in Cambodia need to be accredited and monitored by the government so that the students coming from these courses are able to contribute in their workplace effectively. Unregulated competition between the existing Universities must be reformed so that the students can more easily determine the quality and standard of the course being offered.

Furthermore, the Government should plan to establish computer lab(s) for all schools around the country. The government should look into integrating ICT in the classroom and a beginning step is to provide training for instructors and teachers.

In the public sector, continuous training and life-long learning must be built into individual institutions and ministries so that civil servants may upgrade their skills/knowledge and enhance their performance. The courses for training must be related to the workplace and up-to-date general knowledge and technological know-how must be provided.

The Government should pursue a strategy for access to basic information and communication services through community e-centres. These community e-centres could



provide a wide range of services to local communities including communication facilities like phone, fax, voice messaging and e-mail, and business services ranging from photocopying, word processing and printing service. These e-centers would serve as one-stop hubs for online services for people, including public services such as filing taxes, and issuances and application for licenses and claims. To ensure the sustainability of these community e-centers, close cooperation between the private sector, civil society and government is vital.

5 DISTANCE EDUCATION

Higher education in Cambodia has been provided by both public and private universities and through conventional face-to-face, classroom-based delivery. Of all, only International Institute of Cambodia (now Phnom Penh International University) has in the early 2005 provided and promoted tertiary education through DE. This is a pioneering work.

Distance Education (DE) is relatively new experience to Cambodian people. The first Cambodia DE has been launched by IIC, which is an institute with special interest to provide and promote tertiary education in Cambodia. The institute has launched DE program for the first time in order to provide educational opportunities to Cambodian students countrywide. The program was made possible through a grant provided by United States Agency for International Development (USAID) and managed by Internews and The Asian Foundation (TAF), and with technical supports of the Sustainable Development e-Learning Network (SDLearn).

There have been two rounds of IIC's DE Courses already launched productively. The first one was conducted from May 9 to July 17 2005, providing scholarships to 197 students from 5 provinces and cities, namely Porsat, Pai Lin, Banteay Meanchey, Kampong Cham and Sihanoukville. The second one (August 29- November 06, 2005) provided scholarships to another 120 students from four provinces and cities: Sihanoukville, Kampong Cham, Pei Lin and Banteay Meanchey.

Below illustrates the SWOT analysis of the IIC's DE. This analysis will serve as the guiding experience for the next Cambodia DE.

5.1 Strengths and Opportunities

The two rounds of DE program were brought into fruition. This is a reflection of strength to make the program run relatively smoothly and successfully, and opportunities of a good prospect for future DE.

5.1.1 Strength

In this session, we will find out strength IIC has to successfully launch the DE courses.

5.1.1.1 Partnership and Network

- IIC LMS System (hosting with MARFIN SEVER in Japan)
- Khmer Unicode: All students learnt Khmer Unicode as part of their orientation at the beginning of the course. Most found it easier than Limon and whilst some found it hard to learn at the start once they were taught they found it easy to use. It is important to note that this project as well as the Community Information Center (CIC) in general has been instrumental in the dissemination, implementation and uptake of local language ICTs in Cambodia through the promotion and training of Khmer Unicode as the standard.
- Learning Management System: Of students surveyed 72 % found it easy to use, especially because it was in Khmer which was a welcome new experience for the students. For those who found it difficult reasons varied from lack of IT skills to lack of time for online learning. This was address by the CIC staff that provided tutorials and continued support for student who struggled with the new online learning system.
- Communication and Coordination: Student interaction with faculty and other students is an essential characteristic of a successful DE program and in this course was facilitated through a variety of ways, including e-mail, SMS and phone call. Students were also able to phone and SMS faculty if required which is the norm for education system in Cambodia. The Asia Foundation monitoring reports of online interactions between IIC, CICs and students via email communication and the discussion forum indicate that student and faculty work well with in the process.

5.1.1.2 Facilitation

To make the DE run smoothly and productively requires experienced and qualified lecturers who know how to facilitate this new learning system. Therefore, in preparation of the DE courses, SDLearn, one of IIC's partners in DE program, provided two times of training—the first one with 22 participants and the second with 24—regarding online course on “DE Course Design and Facilitation” to IIC's lecturers. The courses had been conducted before IIC's DE courses started and for the purpose of equipping lecturers with knowledge, techniques and information needed for online teaching.

IIC already offered five courses to provincial scholarship students: Fundamental Management, Fundamental Accounting Principles, Marketing Principles, Introduction to



Business and Principles of Microeconomics.

5.1.1.3 Materials-Online and Text books

Most students used the materials in both versions, finding it allowed them to adjust to their needs accordingly.

Used both-online material as a summary and the textbook as it had more detail

- Downloaded and printed summaries to read at home
- Online summaries easy to understand
- Textbook is more detailed so more useful

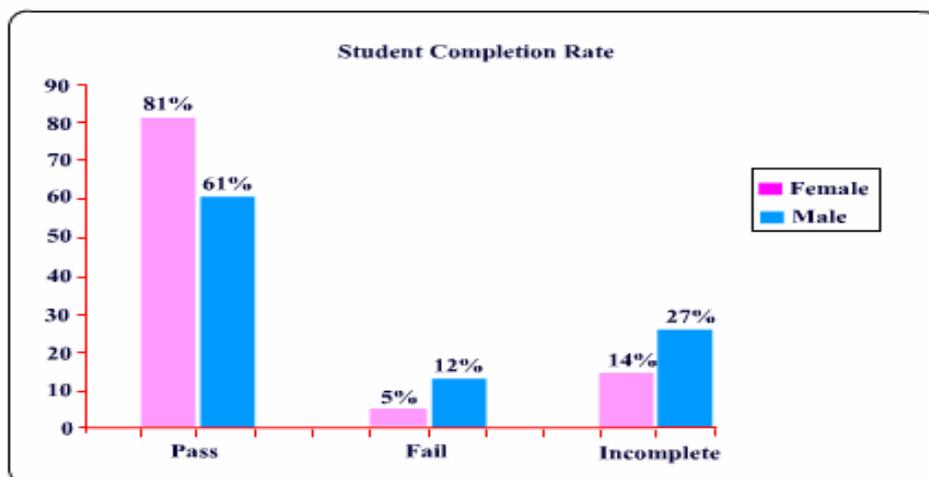
5.1.1.4 CIC Staff Supports

98% of answers ranges from helpful to extremely helpful indicating students were satisfied with the level of support provided by the CIC staff. The learning environment provided by CIC was important to the success of completion.

5.1.1.5 Student Completion Rates

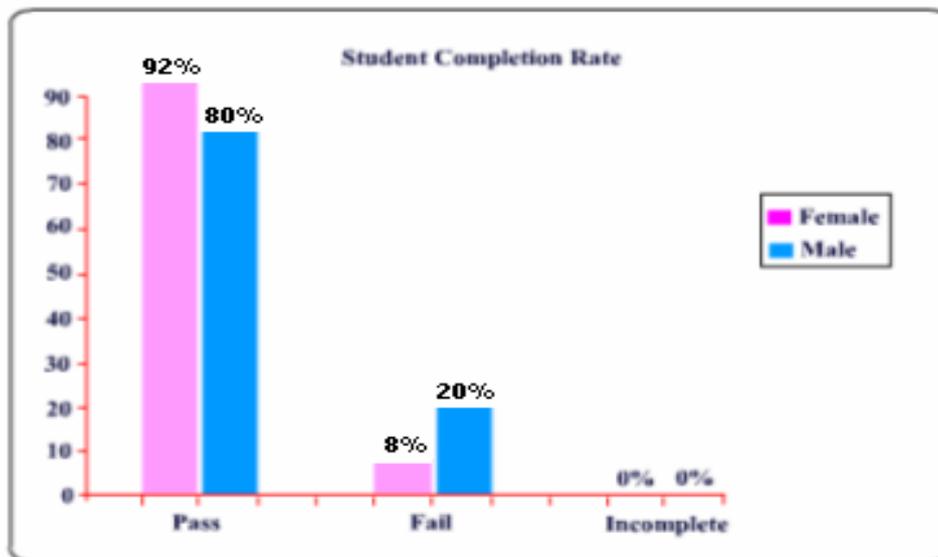
First Round

81 % of Women successfully completed the courses compared to 61% of men for this first round.



Second Round

92 % of women successfully completed the course compared to 80% of men for this second round.



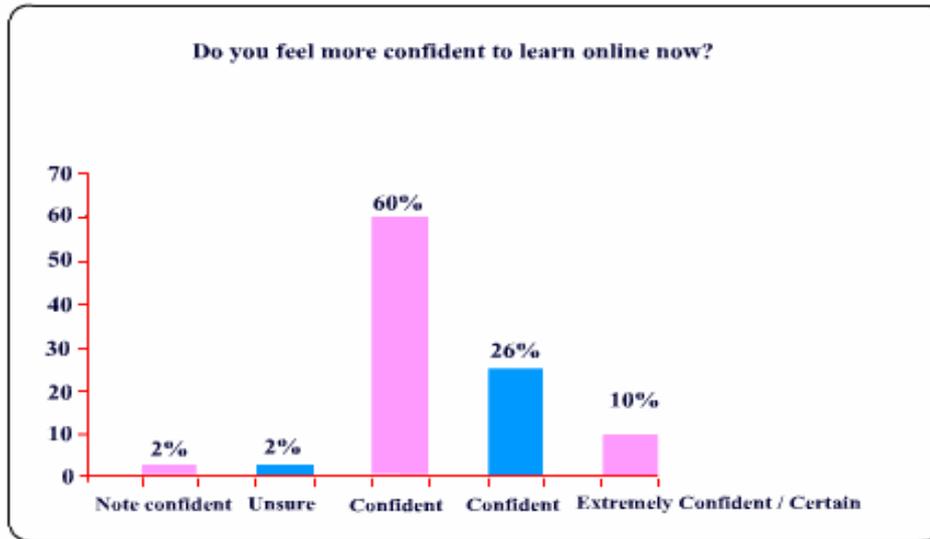
5.1.2 Opportunities

This point will focus on the opportunities which are the indicators of and critical factors for the existing of DE in Cambodia and its future development.

5.1.2.1 Students' Confidence

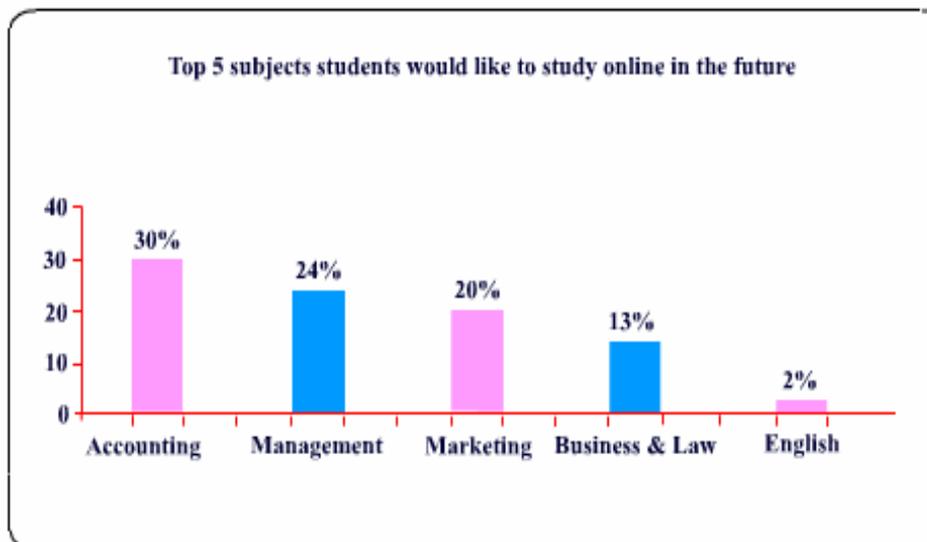
One of the key indicators of success for an online learning program is the confidence of the students to engage in the new electronic education environment.

The observation shows that many provincial students feel self-confident in DE program. They gained some experiences from learning Khmer Unicode, getting educational services via Internet & E-mail without traveling to Phnom Penh, which has never been applied before in Cambodia.



5.1.2.2 Potential Subjects

According to the current market labor demand of some fundamental skills, International Institute of Cambodia through its DE program has provided to Cambodian students those skills, namely Fundamental Management, Fundamental Accounting Principles, Marketing Principles, Introduction to Business and Principles of Microeconomics. Having finished these online courses, it is hoped that the students will grasp the skills and knowledge of their target courses.



5.1.2.3 Student Learning Experience

One of the desired outcomes of this program was that student's experience of online education environment inspires further professional development. There was an improved perception of job opportunities in the provinces for graduates and students felt the program was beneficial to their career development.

Through the telephone interview, it is indicated that students felt their education experience was enhanced by the online course as it allowed them to develop their individual academic skill which they saw as a benefit. The new learning experience improved their confident in new found skills and knowledge. Comments from student below illustrate their perception of online learning compared to classroom based or face to face learning which indicates their development as individual learners engaged with the material.

Advantages as identified by students

- They have time on the reading not in class which is better.
- Studying online gives lot of benefits; learning on his/her own, which is better.
- Online-access to innovation such as computer, Internet etc.
- Online-remember for long time, whereas classroom easy to forget.

5.1.2.4 Improve Job Prospects

Through the evaluation of The Asia Foundation indicated that more than 85% of students felt the course has helped their job prospects. As a major goal of this project was to expand and improve the pool of train job candidates in the province, it is an indication of success that the participants felt their future had been enhanced by their online learning experience.

Of those students survey, 16% had got a new job since completing the course, and almost 40% had been promoted in their current organization. Even the 44% of students who had not had any change in their employment status felt their confident levels had increase and although they had not yet achieved career success, they now felt more confident for their future once completing the course.

5.2 Challenges Implementing the DE Program

While there are some positive factors mentioned above; there are also some hidden negative ones having faced Cambodia in the implementing of DE program.



5.2.1 Marketing and Promotion

The promotions of the courses were important to draw the learners. IIC tried to promote the courses by among others opening a public forum on DE program, publishing leaflets distributed to the provinces and cities, and advertising in IT City Magazine published by IIC. The promotions were not so effective since the courses existed in Cambodia for the first time.

5.2.2 Studying Online Compared to Face to Face Classroom

The assessment of the Asia Foundation on online learning compared to face-to-face learning shows that:

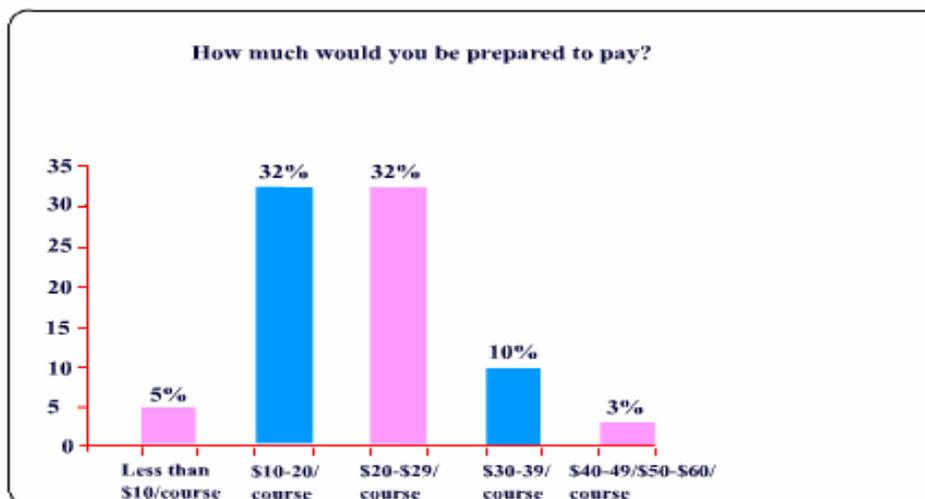
- DE different model-have to wait for answer
- Face to Face easy-ask question directly
- Face to Face easier can ask teacher direct or SMS teacher
- Face to Face question straight away response and remember gestures
- Face to Face easy-quick feed back from teacher
- Face to Face interaction can give more detailed and example relating to situation of business.

This reflects some students prefer face-to-face classroom education. They thought that, "online course required more input from them as individual learner, they preferred face to face as it was easier having direct contact with faculty and peers.

5.2.3 Fee Issue

The tuition fee is an important issue raised for consideration in order to make DE program sustainable. In Cambodia, it is certain the tuition fee is a critical factor influencing the students' decision rather than other factors. Therefore, the students' payment will be considered and implemented when the fund(s) ended; so as to bring sustainability and availability to the program.

According to the assessment of the Asia Foundation, the average tuition fee the students offer to pay for each course is from US\$ 20 to US\$ 30. The general consensus amongst students was the price for course needed to include the internet access, but most students felt online course required more input from them as individual learner they would expect online course to be cheaper than classroom based as they had to do more work independently.



5.2.4 Student Drop out Rates

According to IIC staff's interviews of the students and CIC's staff in the DE target provinces and cities, most drop-out students were those working in NGO and other institutions, which means they cannot manage the time for their studies. There are also others factors leading the drop-out. They are as follows:

- Timeframe for submission of assignment
- Unable to attend examination
- Illness
- Work commitments

6 CONCLUSION

Cambodia is a country covering land area of 181,035 square kilometers. Through its many histories, Cambodia is now being developed immensely. The development of the country is dependent on, among others, pool of skilled and qualified human resources which is the big concern of the Royal Government of Cambodia. Cambodia has considered the policy to adopt ICT as a part of socio-economic development. Through the availability of ICT and DE, the skilled and qualified human resources can be developed.

The Ministry of Education and Youth and Sport understands the growing importance of utilizing information and communication technology within Cambodia. The Ministry has also



set out the strategies for improving the use of ICT within the education sector. The strategies will be extended to include the promotion and development of ICT in education at the university. The rapid development of ICT presents MoEYS with a unique opportunity to make a major and multi-sectional contribution to the expansion and reform of education in Cambodia and therefore to contribute towards the development of DE in Cambodia.

From the government's policy of ICT in education, ICT has been considered as a tool to upgrade the educational qualification, and to facilitate the effectiveness and efficiency of Cambodian education as a whole. The policy has incorporated ICT not only into the secondary school but also into the university. Though there is no clear indication of the relationship between ICT and DE at higher education, the implication can be made that the policy provides a clear insight into technology-based education from which DE can take advantages. We can learn from the policy that DE will reduce the educational gap between the cities and rural areas where conventional schools are not viable and where people, especially busy people want to combine work and learning. So, if education is provided through DE, surely there will be the increasing skilled human capital, especially from the provinces, in order to meet the increasing demand of labor market and to increase the productivity.

As a matter of fact, to possibly launch DE, it is required the DE-related knowledge such as how to use computer, internet, email and so on. In this regards, the ICT in education will partly pave the way for DE. The current status of ICT in education shed light on importance between technology and education. The priority will be to strengthen ICT-based information management at all levels. Access and quality improvement will be supported by ICT-based distance learning opportunities. The ICT developments are put in placed in teacher training, higher education, and non-formal and distance learning. Progress in developing ICT infrastructure and content in Khmer for distance learning has been made mainly by NGOs and private institution, which is proven by 22 community information centres providing low-fee internet access in rural and urban areas and by International Institute of Cambodia (now Phnom Penh International University) providing the first Cambodian DE to 10 provinces in Cambodia under support of USAID, the Asia Foundation and InterNews.

Based on practicality of present telephone status in Cambodia, there are 9 operators in total and the number of subscribers keeps increasing from year to year. To date according to the statistics by ITU and MPTC, there are 1400000 users of mobile phone and fixed phone. Actually this number, if we look at the real situation, is not accurate: it can be much more than that. The only subscribers of MobiTel (012) can be around a million. This context provides Cambodia an ease to the DE operation, for It is a unique opportunity for Cambodia to create an innovative DE system.

However, the big concern to DE in Cambodia as the report reveals is the low availability of Internet. In 2007, the statistics shows that an estimation of Internet users in Cambodia is roughly 13,000 and most of them are in key cities and provinces. The Internet access is not widely available throughout the country; only some key cities and provinces have good access

to the Internet and the other smaller size provinces have little access. The problems are high cost, low speed connection, and some unfavorable services provided by some private companies—all of which are interrelated. Currently this high cost is a major impediment to providing a faster and lower cost of Internet services that would facilitate more widespread usage. In implementing DE countrywide, all these constraints should be solved as possible. There should be a good cooperation and collaboration between DE provider and Internet providers (looking at the experience of the first DE in Cambodia by IIC and CIC). Moreover, the government should promote and provide incentive to and if possible subsidize those providing DE and Internet. Noticeably as seen in the report, to allow further rapid growth of the Internet in Cambodia, it is recommended it is very important to be able to bring down the cost of the backbone connection to the Internet.

With regards to Human Resources Development in ICT, the report shows that about 500 to 800 persons per year graduate from the Royal University of Phnom Penh and Phnom Penh International University. For the time being, many NGOs have provided training in ICT. This is a new aspect of ICT development in Cambodia and this also provides a further indication to the DE through which skilled human resource will be expanded throughout the country. In this aspect, the government has placed the centre on the urgent need for scaling up the activities of all actors and attracting more investment into the field of education.

The practicalities of the DE situation experienced first by Cambodia are the very heart of this report. It is the fact that DE program is the modern educational system facilitating students' learning without reference to time and place. The program has provided equal educational opportunities and qualities to the students living in the provinces, especially in the far-flung-remote areas. This chance was not available in the past, thus leading to the shortage of human resources in Cambodia. Therefore, the DE program will surely contribute to the development of human resources.

In addition, one of the most significant contributions of first Cambodia DE is the creation of the local Khmer language based learning management system. The work undertaken by SDLEARN to develop this system is to be commended as it has moved Cambodia into the new realm of DE that until now was impossible to give the technical limitations of local languages system.

Given the ICT and DE-specific policy of the government in various sectors, especially in education, and the current status of ICT and DE, it is precise that Distance Education will be launched successfully and productively in Cambodia, all things considered. It is strongly believed that the development of the country is dependent on the skilled and knowledgeable people. Needless to say, the human resource development in the age of technology can be promoted among others by means of technology-related education, that of Distance Education. Also, the development of the country cannot be in isolation: it should be regionally and internationally perspective. This clearly provides concrete support for the implementation and development of DE in Cambodia.



7 RECOMMENDATION

So far we can see that the availability and the development of ICT, the pressing demand for qualified human resources, and the government's DE specific policy have readily opened the door welcoming the implementation of DE in Cambodia. Also, the finding of the first DE experience in Cambodia has set a clear insight into the next DE possibility consideration. Most government officials, company employees, NGO staffs and businessmen both in the city and rural area, who do not have time to attend the conventional class, but do have capacity to advance their knowledge and skill, are hungry to see the availability of DE in Cambodia.

According to the finding of the CLV (2005-2007) PANdora project and the report's findings, the need to develop and upgrade the relevant skills in all provinces should be timely promoted since the rapid emergence of ICTs, particularly the cell phone provides good opportunities for Cambodia to create innovative DE systems. It has been agreed that it is important for Cambodia to use DE methods in upgrading the educational systems, in reducing the educational gap between cities and remote areas, and in providing increased study opportunities for rural workers and busy people. However, as seen in the conclusion, the barrier to the implementation of DE, that of the Internet availability should be settled and this should be the job of the government in the promotion of DE and Internet or in subsidization of those DE and Internet providers.

In addition, as concerned the DE in Cambodia, awareness rising is a major challenge. As seen in the conclusion, most Cambodians are unaware of DE: of the many public and private universities, college, and institutes, International Institute of Cambodia (now Phnom Penh International University) has been the first to offer formal courses with DE as a delivery method. So, to launch DE in Cambodia successfully, it is recommended one or two DE-awareness-raising events be conducted and publicized.

Regarding the events, there should be a thorough consideration on the critical issue of cost/benefit factor of DE. Most learners have perceived the cost of education through DE is higher than that of the conventional class-based education. The solution is through the best possible assurance that the DE education having equal value in the labor market is cost effective and efficient for the learners (see the report on the finding of PANdora project).

For the PANdora second project, it is recommended **Phnom Penh International University** (formerly International Institute of Cambodia) be the provider of the next Cambodia DE, for they have already had experience and knowledge of DE system and interface, and the size and scope of the university itself is ideal enough for the implementation. Since PPIU is located in Phnom Penh, the implementation of DE should be in partnership with other university in the province: **Maharishi Vedic University** in Prey Veng province has been recommended to be a partner.

In addition, it is recommended the above SWOT analysis (see section 5: Distance

Education) of the first Cambodia DE launched by International Institute of Cambodia be revisited for more and even more effective and productive implementation. Also, as concerned the first Cambodia DE's findings of the potential subjects (see the report, section 5.1.2.2), Fundamental Management, Fundamental Accounting Principles, Marketing Principles, Introduction to Business and Principles of Microeconomics should be prioritized for the targeted subject of the next Cambodia DE. All these recommended subjects, which are related to socioeconomic growth, provide students with good employment prospect since the number of private company keeps growing and so the demands of labor market keep increasing.

References:

- Vuth, D. (2007). Technical Research Report on Sub-Project 8: Best Practices in Distance Learning Technology for Capacity Building for Cambodia, Lao PDR and Vietnam. PAN-DLT (Asia).
- Ministry of Education, Youth and Sport (2004). Policy and Strategies on Information and Communication Technology in Education in Cambodia.
- Chanthan, C., Chanrithy, S., & Tha, S (2005). The current status of eLearning in Cambodia. ASEAN Seminar on eLearning (Malaysia).
- Political Platform of the Royal Government of Cambodia for the Third Legislature of the National Assembly. Printed by the Office of the Council of Ministers.
- "Rectangular Strategy" for Growth, Employment, Equity and Efficiency addressed by Samdech Hun Sen. First Cabinet Meeting of the Third Legislature of the National Assembly at the Office of the Council of Ministers. Phnom Penh, 16 July 2004.
- World Bank (2004). Seizing the Global Opportunity Climate Assessment & Reform Strategy. Report No. 27925-KH.
- Cambodia Government Draft ICT Policy (2006), National ICT development Authority.
- UNESCAP's Report 2003, Development of enabling policies for trade and investment in the sector of the greater Mekong sub-region.
- Prime Minister's Speech at the Inauguration of Electrical Wire and Cable Production Factory, 11th April 2006.
- Overview of ICT. Cambodia Country Report. Retrieved 21 February 2008 from:
- <http://www.unescap.org/icstd/events/Info-Society-States-Workshop-2007/Cambodia.pdf>



Chinese Taipei Progress Report



Taipei EC/EDI Committee

2008 Members Progress Report : Chinese Taipei

SECTION I – GENERAL CONDITION UPDATE

1.1 Ranking in International Evaluations

In Brown University's study, Chinese Taipei's Online Government services ranked the 3rd position by 198 nations around the world. The Swiss International Institute for Management Development (IMD) analyzed that Chinese Taipei was seated 13th of 55 national economies worldwide using 331 criteria to rank the economies in terms of world competitiveness. Chinese Taipei's overall competitiveness ranking was up five places to 13th, with its Economic Performance dropping from 16th to 21st, Government Efficiency up from 20th to 16th, Business Efficiency up from 17th to 10th and Infrastructure up from 21st to 17th. In addition, World Economies Forum (WEF) ranked Chinese Taipei the 14th in Growth Competitiveness Index (GCI), which is the 3rd position of Asian Pacific countries. According to the WEF's latest "Global Information Technology Report, 2007-2008," Chinese Taipei was in the 17th position. Furthermore, Chinese Taipei is ranked 19th in the 2007 e-Readiness survey published by the Economist Intelligence Unit (EIU) and IBM's Institute for Business Value. At last, the International Data Corporation (IDC) publishes an Information Society Index (ISI) comparing 53 countries participating in the information revolution. The latest 2006 ISI ranked Chinese Taipei in the 20th place worldwide. (Table 1)

□Table 1 : Chinese Taipei's Ranking in International Evaluations

Index	Source	The Ranking of Chinese Taipei
e-Government	Brown University (2007)	3
World Competitiveness	IMD (2007)	13
Growth Competitiveness Index (GCI)	WEF (2007 – 2008)	14
Networked Readiness Index (NRI)	WEF (2007 – 2008)	17
e-Readiness	EIU (2007)	19
Information Society Index (ISI)	IDC (2006)	20



These rankings strongly indicated the current accomplishment of Chinese Taipei's favorable E-Commerce environment and competitive advantages, which resulted from the governmental promotion policies and consistent strength as well as the efforts from both public and private sectors.

1.2 eCommerce Regulation update

The amendment of the "Electronic Signature Act" submitted by the Ministry of Economic Affairs was withdrawn from the Executive Yuan in April 2007. The amendment will be reconsidered and revised based on the improvement of the managing structure to Certification Authorities in 2008.

Regulation of e-Invoice operations was revised and came into force in October 2007. Not only e-business but also TV and catalog business could issue Electronic Invoices through e-Invoice service platform established by the Ministry of Finance from now on.

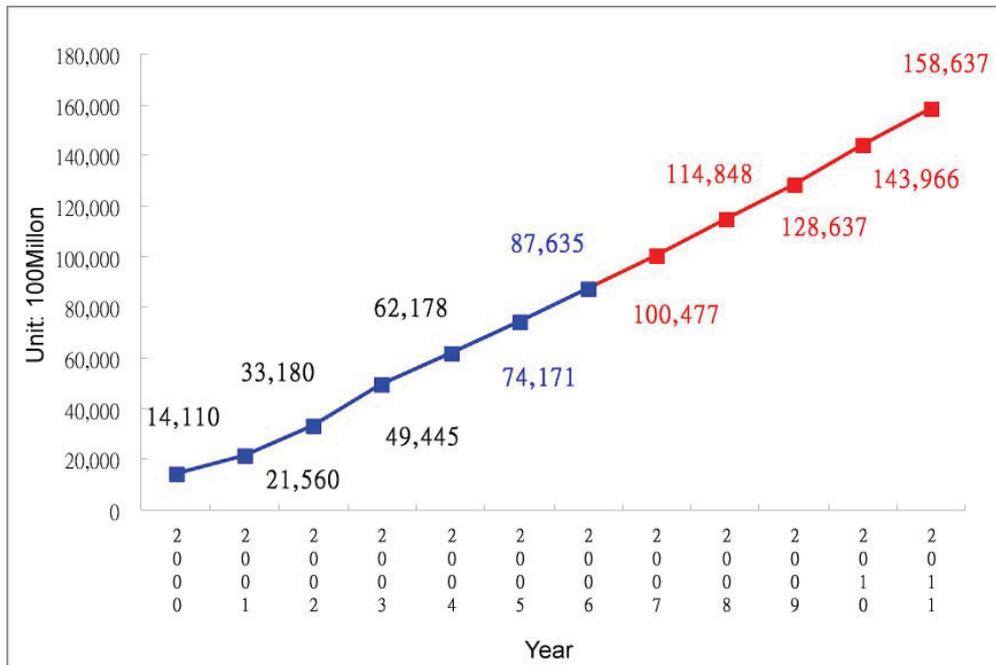
1.3 Status of E-Commerce

1.3.1 B2B E-commerce Market

According to the "EC Legislation & Infrastructure Building-up Project" conducted by the Department of Commerce under the Ministry of Economic Affairs to research domestic top 5,000 enterprises in 2007, 96.9% of Chinese Taipei companies had local area networks and 99.9% had Internet equipment. Relatively large numbers of information firms have established corporate virtual networks (79.5%), followed by financial and insurance institutions (73.1%).

Additionally, at least 87% of domestic corporations have established web sites, again led by the financial/insurance industries (95.0%) and the IT industry (94.6%). However, the agriculture/fisheries/forestry/livestock categories have relatively low percentages (77.6%) and more than 13.2% of firms lack a company website.

< Figure 1 : Year 2000~2011 Domestic B2B E-Commerce Market Scale Predictions >



Source : MOEA Department of Commerce, "EC Legislation & Infrastructure Building-up Project," 2007

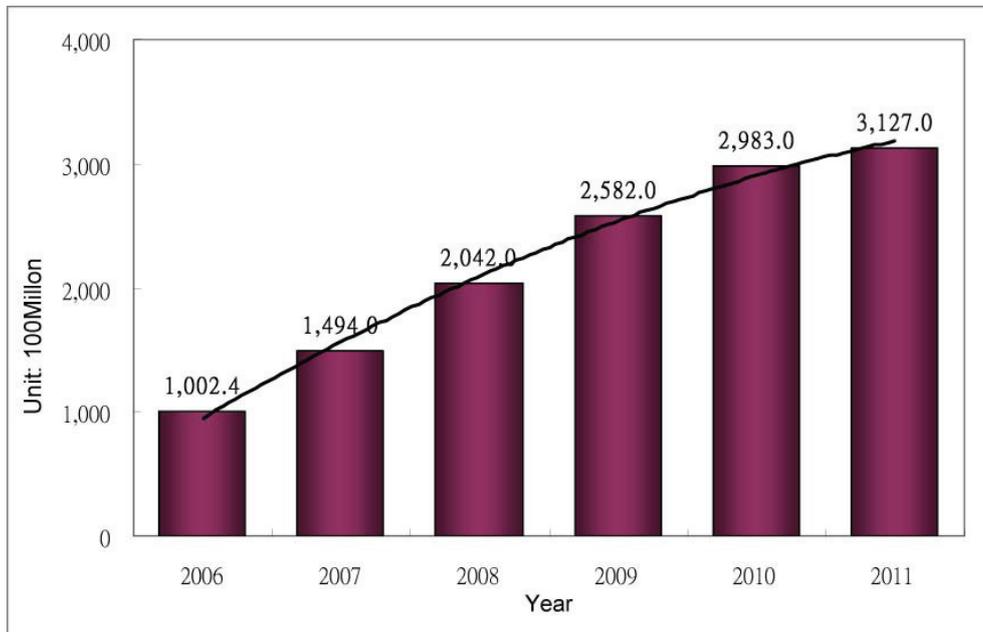
Looking at the overall market scale, Chinese Taipei's B2B transactions worth a total of NT\$1.411 trillion in 2000 and had grown to NT\$8.764 trillion by 2006. The domestic B2B e-commerce market thus grew by approximately NT\$7 trillion in only six years, for a compound annual growth rate (CAGR) of 35.6% (Fig. 1). Projections show the B2B e-commerce market growing to NT\$15.864 trillion by 2011, while maintaining a CAGR of 12.1%.

1.3.2 B2C Online Shopping Market

The three biggest segments of the domestic B2C e-commerce market are travel services (24.4%), other products and services (19.4%), and beauty products (15.2%) respectively, followed by apparel & accessories, jewelry, and luxury goods (14.9%), investment/financial management (14.3%), foods/sundry goods (3.7%), books & magazines (2.6%), home and living merchandise (2.3%), 3C products (1.7%), audiovisual products (0.6%), digital content information (0.5%), computer software (0.2%), and ticket services (0.1%).



<Figure 2 : Year 2006~2011 Taiwan Online Shopping Market Scale Forecasts>



Source : MOEA Department of Commerce, "EC Legislation & Infrastructure Building-up Project," 2007

2006 domestic online purchases totaled to NT\$100.24 billion, officially breaking the NT\$100 billion mark (Fig. 2). Forecasts for 2007 were expected to surpass NT\$140 billion, and that for 2011, NT\$312.70 billion. Compound annual growth rate for the period from 2006 to 2011 was expected to be 25.6%. It was also estimated that online retail shopping would accounted for a 3.17% share of the overall retail market in 2007.

1.3.3 C2C Online Shopping Market

Statistics show Taiwan's C2C online auction market scale was NT\$51.6 billion in 2006, growth rate reaching 61.5%. Taiwan's 2007 C2C market scale was valued to reach NT\$78.4 billion with a growth rate of roughly 51.8%. The joint venture of eBay and PChome was established in September 2006 and it forced a change in the ecology of domestic C2C auction websites. Its free of charge strategy has rapidly increased the number of items it auctions. The new auction website claims that it auctioned 4.04 million products by the end of June 2007, beating Yahoo! Kimo's 3.8 million items.

1.3.4 C2C Online Shopping Market

The performance of Taiwan's e-government has been approved by the world for numerous times, being rated number 1 worldwide by America's Brown University in years 2002, 2004, and 2005. Main services of e-commerce applications include filing reports on liable taxation online, electronic procurement, and tuition payment. As of the end of May 2007, 2,456,424 consolidated income tax reports were filed online, which accounted for 50.44% of all reports nationwide. As of the end June of 2007, the Executive Yuan Public Construction Commission's electronic procurement system had been used 51 million person-times, electronic tender documents from government agencies had been downloaded from the system 929,976 times, and government agencies had made 695,136 online orders at a value of NT\$58.7 billion.

1.4 e-Infrastructure

Up to June 2007, the number of Chinese Taipei's Internet users exceeded 14 million, making for a penetration rate of more than 60%.

1.5 e-Government

In 2007, a total of 2.457 million people, or 50.44% of all income tax payers in Chinese Taipei, filed their income tax on-line; for business income tax, the number reached 97.12%. This means cost savings of about NT \$4.5 billion.

70% of official documents between government agencies are now transmitted online, involving more than 20,438 government units and saving administrative costs of up to NT\$200 million per year. Another 3 billion are saved by online procurement system announced by the Public Construction Commission.

Many government services have already been made available online, including real-time or frequently updated transportation/traffic information and services, government employment services, booking and itinerary planning services for tourists, financial support and services for small and medium enterprises, import/export services, automobile import services, foreign labor administration and services, criminal records services, and chores home management services.

1.6 e-Industry

Chinese Taipei's services industry has been posting constant growth over the past years, reaching an output value of NT\$239.5 billion in 2006, and is predicted to generate more than NT\$300 billion in 2008.



In 2006, Chinese Taipei's government launched an e-Invoice project, and by 2007 a total of 114 ITES invoice-issuing centers were set up and seamlessly connected with large enterprises (including Internet retailers) through data exchange platforms. The technology is becoming well embedded, with e-invoices issued in 2007 numbering around 10 million.

1.7 e-Life

Some 16% in Chinese Taipei's large enterprises had introduced e-learning technologies. By 2007, the number had already risen to 50%. By the end of August 2007, digital TV transmission services were available to 16.41 million people in Chinese Taipei (signal coverage of 10,547 square km), reaching 71.8% of the island's total population. Cities and counties around the island are promoting smart bus system networks (e-bus systems), which have helped to raise passenger satisfaction rates to 80%.

1.8 e-Opportunity

Computer penetration in Chinese Taipei has significantly increased, in particular among ethnic minorities and in remote areas of the island. While only 44.5% of the indigenous population used computers in 2005, the number rose to 67.2% in 2007. During the same period of time, the number of indigenous people with previous Internet experience had grown from 39.9% to 60.9%.

1.9 e-Usage

1.9.1 Mobile phone subscribers

According to the data provided by the National Communications Commission (NCC), as of the end of December 2006, there were approximately 23.25 million mobile phone subscribers in Chinese Taipei, of which 79.4% were 2G or 2.5G numbers where the subscriber would be able to use WAP or GPRS technology for mobile Internet access. 3G and PHS subscribers accounted for only around 20% of all subscribers.

1.9.2 Households Online

According to IDEAS-FIND's survey, 79% of households in Chinese Taipei have access to the Internet. By comparison, there is a growth rate of 7% from 2006 to 2007. In addition, the Online Households rate was 96% of using broadband internet connections in 2007.

(1.4 ~ 1.9 Source: Report on the Status of e-Taiwan Program, from website at www.etaiwan.nat.gov.tw)

1.10 Taipei EC/EDI Committee

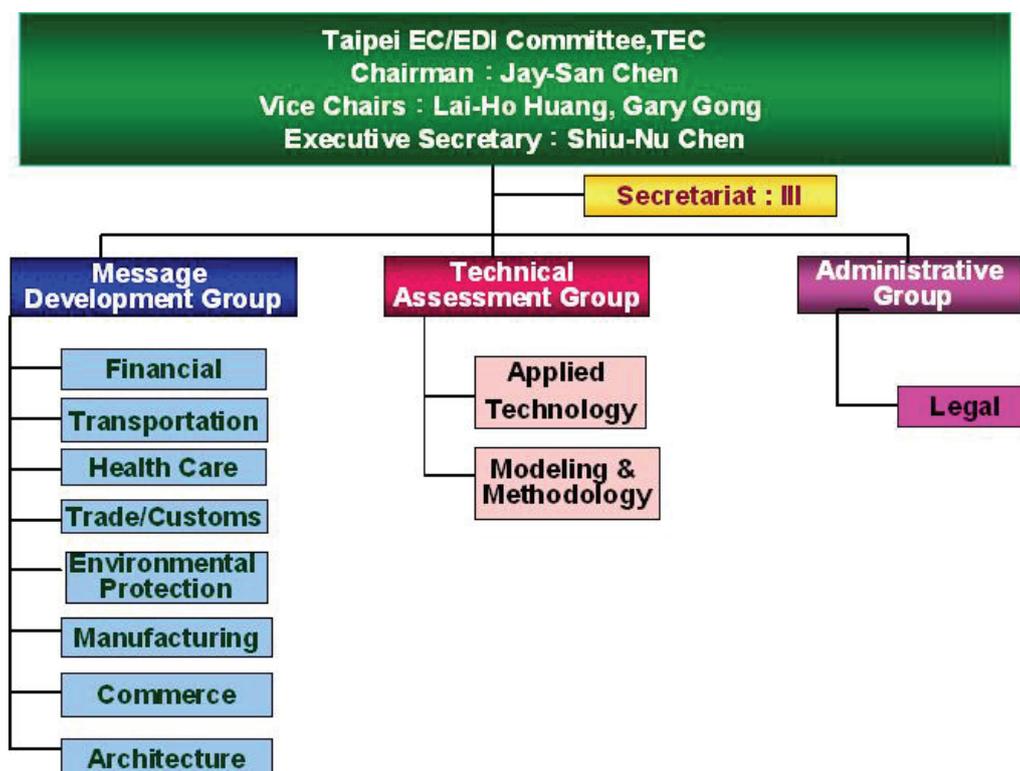
1.10.1 Introduction

The Bureau of Standards, Metrology and Inspection under the Ministry of Economic Affairs established Taipei EC/EDI Committee (TEC) in 1992 to accelerate the promotion of eCommerce Standards and Trade Facilitation as well as to set up respective working groups under the TEC to take charge in specific areas of concern.

1.10.2 Constitution

The General Director of the Bureau of Standards, Metrology and Inspection chairs the Taipei EC/EDI Committee.

<Figure 3 : Current Structure of TEC >



Source : TEC Secretariat, December 2007



SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 B2B e-Commerce application usage

The Department of Commerce's 2007 e-Commerce Legal System and Fundamental Environment Development Program surveyed the state of corporate e-business and B2B e-commerce application usage in companies of the information industry, manufacturing, financial/insurance industries, agriculture, forestry, fishing, livestock, construction, and B2B e-commerce in six major industries under its jurisdiction: the food/sundries industry, 3C product logistics industry, publishing/media/entertainment industry, apparel and accessories industry, pharmaceutical and cosmetics industry, and tourism and travel service industry. It would be mentioned e-commerce transactions via three major industries as followed.

➤ Information industry

Although a relatively large number of information companies rely on email to transmit information to and from upstream vendors and downstream customers, in many cases companies also use web-based methods to conduct transactions with downstream vendors. Among responding information companies, 34.9% indicated that they conduct e-commerce transactions with downstream firms and customers employing electronic operating procedures. In summary, information industry firms mainly rely on email to place orders with upstream vendors (79.6%) and also to receive orders from downstream customers (90.1%).

➤ Construction Industry

A relatively high number of construction firms rely on email to transmit information to and from upstream vendors and downstream customers. Among the surveyed construction firms, 5.6% responded that they conduct e-commerce transactions with downstream vendors and customers employing electronic operating procedures.

➤ Agriculture, Forestry, Fishing, and Livestock Industries

A relatively high number of agriculture, forestry, fishing, and livestock firms rely on email to transmit information to and from upstream vendors and downstream customers. Nevertheless, as many as 80% of these firms still transmit information to upstream and downstream companies using manual methods.

2.2 e-Health care Services

The rapid progress on information technology and the advent of the Internet, with its convenience, ease-of-use and worldwide access, have enabled healthcare to move into new service models. Chinese Taipei has for many years prided itself on the universal, cradle-to-the-grave medical care that it provides for its citizens, and has notched up some impressive achievements in preventive healthcare, ensuring access to medical treatment, and the diagnosis and treatment of disease. The lifelong care model adopted by the Department of Health (DOH), Executive Yuan, is very much people-centered, with technology playing a supporting role. The adoption of this model has led to the development of a comprehensive set of e-healthcare programs. As soon as a citizen is born, he/she is issued with a National Health Insurance (NHI) IC card, to facilitate the effective integration of lifelong care provision. The creation of a centralized, online service window makes it easy for the public to access the healthcare and disease prevention information that they need. Electronic Medical Records (EMRs) have been designed to meet citizens' needs when seeking medical treatment. With these e-records, all of the patient's records from previous visits to different clinics can be accessed by any hospital, giving doctors the patient information they need to make an accurate diagnosis, while at the same time ensuring that the patient's rights are protected. E-enablement also has an important role to play in both long-term care and emergency response, by ensuring the efficient flow of information, making it possible to use resources more effectively, and helping medical personnel to react immediately to changing circumstances. In the last few years, following the implementation of various medical and healthcare information service plans, Chinese Taipei has gradually built up practical, comprehensive online health service architecture and the results achieved in this area are truly impressive.

In 2000, HL7 Association of Chinese Taipei is an accredited organization for international healthcare informatics standards development. In addition, HL7 is an international standard for healthcare data exchange. It provides the "Rules" for common types of communication between healthcare information systems, and is one of the most widely implemented exchange protocols internationally. Healthcare organizations can derive tremendous benefits from adopting HL7. This was followed in June 2001 by the establishment of HL7-Chinese Taipei Association, and in March 2003 by the establishment of the Medical Imaging Standards Association of Chinese Taipei. By 2005, 13 Protocol/Recommendations for HL7 Standards Specification had been drafted, and a HL7 Message Verification/Validation system had been established, along with a system for comparing international Logical Observation Identifier Names and Codes (LOINC) with Chinese Taipei's NHI-LOINC. In this way, the government hoped to deliver a solid guideline for healthcare interoperability standards.

In 2004, DOH began work on the electronic format standards for medical records. By June 2005, pilot projects with standard components/format for the EMRs had already been completed for outpatient, emergency and inpatient medical records, and work was continuing



on the standard formats for specific medical specialties. DOH has also been providing technical consulting service to help hospitals overcome any problems they may encounter when implementing these formats. The standard format for electronic medical record offers several advantages: it conforms to regulatory requirements, has been designed to meet the special needs of hospitals and clinics in Chinese Taipei, conforms to the international HL7 CDA 2.0 standard, and provides first-rate portability (thanks to the use of XML technology).

Comparison of the results obtained in the Survey of Electronic Medical Record Adoption in Hospitals and Clinics surveys (covering all hospitals in Chinese Taipei and 25% of all clinics) implemented by DOH in 2002 and 2005 showed that, following three years of effort during the period 2002-2005, by 2005 EMRs were in widespread use, and the majority of hospitals had achieved impressive results with their introduction. Around 50% of hospitals had reached at least Level Two in e-record adoption, and 40% had reached Level Three or higher. Level Three represents effective integration of information systems with data. Medical facilities in Chinese Taipei have thus already established a solid foundation for further development in electronic medical record adoption. Hospitals have already achieved intra-hospital integration of information systems and medical records, and are now moving on to the next stage: sharing and exchanging records with other hospitals.

2007 for completion of two drafts of the situation in Chinese Taipei HL7/XML, health inspection reports message exchange standards on standardized specifications and health inspection reports CDA R2 Guidelines for the implementation.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

This section depicts the current state and future development trend of various standard-related projects that are carried out by the respective working groups under the Taipei EC/EDI Committee.

3.1 Manufacturing

The e-Business standards in seven manufacturing industries were developed and implemented in 2002 with budget from Industrial Development Bureau (IDB) and Ministry of Economic Affairs (MOEA). These industries are the textiles, pulp & paper, automobile, heavy

electronics, iron & steel, petrochemicals, and machinery industries. During the project period, 14 business process standards, 30 document standards, 2 vocabulary standards and 4 classification standards were accumulatively developed, and about 143 companies implemented and applied document standards in business process of ordering, purchasing and shipping in a total of 20 systems. (Table 2)

□ **Table 2 : Summary of e-Business Standards Implemented and Applied by industries in 2002 (Source: IDB, MOEA)**

Industry	Process Applied	Standards implemented	Standards Developed
Textiles (RN-like)	Fabric dying, finishing process operations	Dying/finishing notice, shipping notice	<ul style="list-style-type: none"> ▪ Process standard: packing specification notice ▪ Document standard: dying/finishing notice, muslin finishing, shipping notice, packing specification notice
Petrochemicals (CIDX)	Order operation client-end	Ordering, response, modification, cancellation, response, tracking, and response	<ul style="list-style-type: none"> ▪ Process standards: Client registration process, demand forecasting process, supply planning/demand planning process ▪ Document standards: Qualification application, qualification response (customer management operation), demand forecasting, demand forecasting response, demand planning, demand planning response (supply management operation)
	e-Catalogue operation	Product catalogue update, particular client catalogue update	
Machinery (RosettaNet)	Purchasing operation on supplier's end	Enquiry, quote, purchasing order, tracking, modification, and cancellation	<ul style="list-style-type: none"> ▪ Process standards: Enquiry, quote, purchasing order, tracking, modify, cancellation ▪ Document standards: Enquiry, quote, purchasing order, tracking, modification, cancellation



Industry	Process Applied	Standards implemented	Standards Developed
Pulp & Paper (PapiNet)	Order management operation from client end	Ordering, order confirm	<ul style="list-style-type: none"> Document standards: Shipping indication, shipping notice
Automobile (OAGIS)	Manufacturing management operation from supplier end	LT component demand plan, ST component demand plan, shipping indication, receipt QC	<ul style="list-style-type: none"> Process standards: Ordering, payment specification Document standards: Order, payment specification <p>Note: LT = Long term ST = short term QC = Quality Control</p>
		Shipping indication, Receipt QC	
		Shipping indicator, ST component demand plan	
		Shipping indication, receipt QC	
		Shipping indication, receipt QC, return notice	
Heavy Electronics (OAGIS)	Purchasing operation from supplier end	Enquiry, quote, order form, order confirmation	<ul style="list-style-type: none"> Process standards: order process Document standards: order cancel, order modify

Industry	Process Applied	Standards implemented	Standards Developed
Iron & Steel (isXML)	Order operation from client end	Order form	<ul style="list-style-type: none"> ▪ Process standards: Order process ▪ Document standards: enquiry, quote, order confirm, order form/ dispatch notice ▪ Classification standards: stainless steel plates/hot-rolled stainless steel/cold-rolled stainless steel, stainless steel rod/ steel wire, galvanized & painted steel wire, concrete reinforcement bars ▪ Vocabulary standards: particular terminology for iron & steel industry, business related terminology
	Distribution operation from client end	Shipping notice, quality certification, non-radiant certification	
Total		Document standards: 36	Process standards: 14 Document standards: 30 Classification standards: 4 Vocabulary standards: 2

In 2003, the budget supported by IDB assisted two benchmark industries, heavy electronics and machinery, to develop e-Business standards application. Moreover, seven major domestic manufacturers of benchmark industries were in cooperation with their upstream and downstream to implement the e-Business standards. The application of e-Business standards included enquiry, quote, order, shipping, quality control and payment of e-Business standard items.

Also, five user-groups were supported by the IDB to develop the plan of e-Business standard application, including the industries of heavy electronics, machinery, filament weaving, iron & steel, and pulp & paper. There were five primary industrial associations carrying out these plans, including Taiwan Association of Machinery Industry, Taiwan Electrical & Electronic Manufacturers' Association, Taiwan Silk & Filament Weaving Industrial Association, Taiwan Paper Industry Association, and Taiwan Steel & Iron Industries Association.



The professional training courses and discussion for the industries in the fields of e-Business standards application were provided as well, the courses focusing on XML, UML, ebXML, and etc. There were sixteen courses held in Taipei, Taichung and Kaohsiung with more than 180 participants.

In 2004, IDB learned that the environment for e-Business standards application was getting more and more mature, and expanding standards users in any manufacturing industry was a key success factor for the development of e-business in the future. IDB decided mainly to support industrial users who can commit themselves to implement e-Business standards. Machinery and filament weaving industries have been applied and got sponsorship to implement e-Business standards they have developed these years and keep maintaining standards as well.

“e-Business standards implementation project for machinery industry, 2003~2006” was organized by the Precision Machinery Research & Development Center (PMC). User group members are Falcon Machine Tools, Anderson, Fu Sheng Industrial, Fu Chun Shin Machinery Manufacture, Victor Taichung Machinery Works, and Tung Pei Industrial. Rexon Industrial, Chinese Taipei’s biggest manufacturer of motor-driven tools manufacturer, joined the project in 2005. They set up 28 machinery industry e-Business standards and these seven companies invited over 220 suppliers to use peer-to-peer TAMIVAS turnkey solutions. The feature of machinery industry is that they set not only document standards but also transmission protocols to improve data communication efficiency. (Table 3)

Table 3 : e-Business Standards In Machinery Industry (Source: IDB, MOEA)

No.	Cluster	Segment	PIP
1	2A	2A1	New Product Information Notification
2	3A	3A0.1	Inquiry Apply Request
3		3A0.2	Inquiry Apply Response
4		3A1.1	Price And Availability Request
5		3A1.2	Price And Availability Response
6		3A4.1	Purchase Order Request
7		3A4.2	Purchase Order Response
8		3A8.1	Purchase Order Change Request

9		3A8.2	Purchase Order Change Response
10	3B	3B0.1	Shipment Notification Request
11		3B0.2	Shipment Notification
12		3B2.1	Shipment Receipt Request
13		3B2.2	Shipment Receipt Response
14		3B2.3	Quality Notification
15		3B18	Shipment Delivery
16	3C	3C0.1	Remittance Advice Notification
17		3C0.2	Remittance Advice Response
18		3C3	Accounts Checking Notification
19		3C5	Billing Statement Notification
20		3C6	Payment Notification
21	4C	4C1.1	Inventory Status Query
22		4C1.2	Inventory Status Response
23	6C	6C1.1	Support Service Request
24		6C1.2	Support Service Response
25	7C	7C1	Manufacturing Genealogy Query
26		7C2	Manufacturing Genealogy Notification
27		7C4.1	Quality Incident Notification
28		7C4.2	Quality Incident Response

Taiwan Silk & Filament Weaving Industrial Association and Taiwan Textile Federation organized “e-Business standards set-up pilot project for filament industry, 2004~2005.” User group members are Wisner Industrial, Sumagh High Tech, Tai Yuen Textile, Far Eastern Apparel, Everest Textile, Li Peng Enterprise, Formosa Taffeta, and Taiwan Taffeta Fabric. They have setup 16 filament industry e-Business standards, such as order request/response and



order change request/response. 4 supply chains had implemented the standards and passed the pilot test. They also came out detailed plans for platform operation and developing profitable business model in the near future.

“User group” for e-Business standard application has been proven to be a very good strategy, especially in machinery and filament industry. For small- and medium- sized enterprises, both of platform and peer-to-peer solutions can save them a lot when they exchange business information with more than one customer. Big companies’ buying force can also drive SMEs invest money without pain. After information flow related industrial standards have been set up and implemented, these two industries are going to make some plans about involving cash flow and logistics flow in their existing standards to enhance their competitiveness.

After industrial B2B data exchange standards were available, IDB has been developing an e-business maturity evaluation standard, which is named as “e-Business Assessment Scheme for Enterprise, e-BASE,” for manufacturers since 2005.

According to “AIDA model” in marketing theory, enterprises should be aware of the importance of e-Business before they can take action to implement e-systems. e-Base, as a benchmarking system, can force enterprises to care about e-Business and their e-Business capabilities.

Referring mainly to Supply-Chain Operations Reference-model (SCOR) promoted by Supply Chain Council (SCC), IDB develops an e-BASE assessment tool, which encompasses 4 sections: “e-Readiness (Enabling)”, “Source”, “Make” and “Deliver.” The purpose of 54 questions here is to measure the degree of e-application in different business operations. The current version focuses on ODM and OEM operation models and the scope will be expanded in the next phase.

Through the past three years of promotion, e-BASE has been tested and adopted by more than 4,502 domestic enterprises and attracted the attention of SCC, an international organization designated to the development of supply chain methodology. Due to the accomplishment that e-BASE has made, the SCC is further considering to include e-BASE in its SCOR.

The result shows that, in turns of e-business operation, enterprises are more mature in the category of “e-Readiness (Enabling)”, followed by “Make,” “Deliver,” and “Source.” Different industries have different levels of maturity too. For example, information technology industry by far is the most mature industry in Taiwan, followed by chemical industry, FMCG industry, and metalworking and machinery industry. As anyone can imagine, big companies get higher score compared to medium and small companies. In total, the e-business maturity of Taiwanese enterprises is improving.

In 2007, based on previous efforts, IDB was invited by SCC to join the “Customer-Chain

Operations Reference-model (CCOR)” working group to discuss the processes, metrics and best practices of sales activities and formulate the CCOR standard version one. The key processes include “Plan,” “Relate,” Sell,” “Contract,” and “Assist,” and the five major metrics are “Reliability,” “Responsiveness,” “Agility,” “Asset,” and “Management Costs,” while the best practices are still under discussion. Because of the early involvement of CCOR standard, Taiwanese manufacturers which focus on own brand or channel development can be benefited by learning from foreign successful stories.

3.2 Commerce

3.2.1 The Achievement of e-Business Consulting in B2B for Chinese Taipei Distribution Services Industry in 2007.

In order to create high additional value and efficiency for Chinese Taipei distribution services industry, the Department of Commerce under the Ministry of Economic Affairs launched the “Sectors of Electronic Commercial Promotion Plan” and the “Electronic Commercial Pioneer Promotion Plan” to integrate upstream and downstream enterprises in the distribution services industry. The government anticipates that both of the plans can assist the distribution services industry in re-structuring the business processes, strengthening or integrating the marketing channels. What is more, the enterprises can also sort out the proper operation processes, collaboration model or industrial horizontal strategic alliance, and then target the application of the most appropriate e-Business Model in its operation. Finally, the full e-business solution of industrial value chain can be established.

The “Sectors of Electronic Commercial Promotion Plan” aims to drive the integration and collaboration between supply chain and demand chain. It provided consultation for 24 enterprises (including applications and community service platforms) in distribution services industry and 5,441 enterprises applied B2B e-business solution in 2007. The benefits include integrating diverse resources, enhancing the operating efficiency of value chain, and consolidating customer relationship. Table 4 depicts the e-business development among different businesses in 2007:



□ **Table 4 : The main e-applications of different businesses for distribution services in 2007**

Business	The number of counseled enterprises	The number of co-operative enterprises	Major e-Business application list
Textiles and Clothing	3	269	1.e-Order Management 2.Inventory Management 3.3D Virtual Model 4.ERP(Enterprise Resource Planning) 5.Web POS 6.Online Survey System
Food and Commodity	2	83	1.e-Order Management 2.Inventory Management 3.VMI(Vendor Managed Inventory) 4.Mobile Quotation System
Auto Components	2	601	1.e-Accounting Management 2.e-Learning 3.M-Commerce 4.CPFR (Collaborative Planning, Forecasting and Replenishment) 5.Consignment Sale Management
Computer, Communication and Consumer Electronics	3	679	1.Online Repair System 2.CRM (Customer Relationship Management) 3.Online After-service System 4.e-Learning
Publishing Audio and Visual	1	17	1.WAP Digital Database 2.e-Marketing Management 3.QR Code Application Management
Tourism	1	200	1.e-Purchase Management 2.GPS (Global Positioning System) 3.CRM (Customer Relationship Management)

Business	The number of counseled enterprises	The number of co-operative enterprises	Major e-Business application list
Restaurants	1	141	1.e-Order Management 2.e-Purchase Management 3.e-Marketing Management 4.Inventory Management
Cosmetics and Medicine	1	39	1.Demand Forecasting 2.Inventory Management 3.CRM(Customer Relationship Management) 4.Supplier Management
Furniture	1	56	1.VMI (Vendor Managed Inventory) 2.Online Designing System 3.DSS (Decision Support System)
Other Distribution	5	749	1.Online Gene Detection System 2.e-Order Management 3.M-Procurement Management 4.e-Catalog Management 5.Inventory Management 6.e-Order Management 7.e-Accounting Management 8.e- Replenishment Management
Community Service Platform	4	2,607	1.e-Invoice 2.Supermarket Product Information Platform 3.Distribution Service e-Hub 4.M-Dispatching Management 5.Online Subscribing Management 6.e-Catalog Management 7.Inventory Management
Total	24	5,441	



In addition, the “Electronic Commercial Pioneer Promotion Plan” makes efforts in increasing the industrial international competitiveness and assisting the enterprises in linking with the global supply chains. 9 enterprises carried out the innovative, large-scale or international projects obtaining consultation in 2007. Furthermore, they integrated 339 upstream and downstream enterprises to connect the value chain in accordance with the CPFR guidelines. Besides, there are also 400 companies selling their products to the international market. Table 5 is a brief description of the result from the 7 projects:

□ Table 5 : Summaries of e-business consultation for distribution services in 2007

Enterprise	Summary
President Chain Store Cooperation	It introduces the digital dealing kiosk to meet the customers' demands as well as to diminish the digital divide between the urban and the rural.
G-Music Co., Ltd.	It adopts the DRM to establish the first global Chinese digital music platform and assists the consumers in forming the user-pays habit.
SENAO International CO., Ltd.	It cooperates with the national mobiles companies to analyze the customers' requirements and to customize marketing activities as well as to increase the market share of national mobiles.
Rock Mobile Corporation	In order to publish the digital music to satisfy the consumers, it assists the composers in delivering their creative lyrics and melody on the platform as well as transforms the digital formats automatically.
Elitegroup Computer Systems Co., Ltd.	It provides the maintenance and supporting services for the international partners and increases the operating efficiency of global supply chain.
Hsin Tung Yung Co., Ltd.	It drives the products pedigree mechanism to ensure food safety and to reduce resources consumption.

Taiwan Car Rental Group	It forges the strategic alliances with transportation organizations, hotels, travel agencies and insurances to provide integrated travel planning as well as to advance the tour convenience.
Tittot Co., Ltd.	Through the customer relationship management, Tittot establishes an active marketing as well as after-service models to strengthen brand value.
Makalot Industrial Co. Ltd. & e-Bizprise Inc.	It follows the example of Test Rite and Wal-Mart introducing CPFR® to build up the faster collaborative forecasting and replenishment in the textile and clothing industry.

3.2.2 Achievement of Chinese Taipei “Logistics & Supply Chain Management Service Initiative” in 2007

To promote and support Logistics Service Providers (LSP) to enhance business scale and service capabilities in global marketplace, the Ministry of Economic Affairs (MOEA) led and sponsored the “Logistics & Supply Chain Management Service Initiative.” The MOEA encourages LSP to consolidate with each other and develop value-added logistics services and supply chain solutions by adopting ICT technologies, enabling to meet the ever-increasing needs of the enterprises whose business environments have changed dramatically. In order to enhance supply chain efficiency, lower inventory level and reduce overall supply chain operational costs, there is eventually more competitive in managing global supply chain

In 2007, the Department of Commerce supported 13 projects, including 5 logistics alliances, 4 niche logistics services, and 4 public e-logistics hubs. Totally 877 LSPs and 504 enterprises have joined these e-logistics hubs to perform freight document exchange, rate request & quotation, on-line booking, real-time cargo tracking, e-inventory, and billing process electronically. The government’s “Logistics & Supply Chain Management Service Initiative” has significantly enabled LSP to provide integrated logistics services, to exchange freight information efficiently, and provide timely shipment and inventory visibility along the supply chain. In addition, LSPs have increased NT\$136 million investment in ICT and e-logistics service. It essentially helps to upgrade the level of service as well as the competitive edge of Chinese Taipei logistics industry. The service features that e-Logistics Hubs provide are illustrated in Table 6.

□ **Table 6 : Service features of e-Logistics Hubs in 2007**

e-Service functions	Type of e-logistics Hubs	No. of supported Hubs	Company Name	No. of LSPs participated
1. e-Document 2. e-Booking 3. e-Inventory 4. Truck Management	Logistics Alliance (Private Hub)	5	1. HCT Transportation Co., Ltd. 2. SPEEDY Express Forwarder Co., Ltd. 3. EVERGREEN Logistics Co., Ltd. 4. TONGLIT Logistics Co., Ltd. 5. T.JOIN Transportation Co., Ltd.	60
5. Cargo Tracking 6. Co-load system 7. e-Billing system 8. Reverse Logistics	Niches Logistics (Private Hub)	4	1. DG Specialty Ltd. 2. ALL STAR LINK Logistics Co., Ltd. 3. APOLLO Logistics Ltd. 4. Express Service Limited Co., Ltd.	37
9. RFID 10. GPS	Public hub	4	1. Universal EC Co., Ltd. 2. Amass Supply Chain Integration Co., LTD 3. Toplogis Co., LTD. 4. Prolink Solutions Co., Ltd	780

Furthermore, the Department of Commerce has developed 59 XML standard documents for logistics operations, fully complying with United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) ebXML, UMM, CCTS and NDR specifications. Up to 2007, the standard documents have been adopted by 2,616 LSPs. This infrastructure not only expedites the deployment of e-logistics service among Chinese Taipei logistics industry, but also ensure the interoperability with global logistics community in the near future.

3.3 Environmental Protection

Taiwan Environmental Protection Administration (TEPA) has been developing a number of environmental-related data standards and information systems for environmental data exchange and sharing. The preliminary results in the past year are summarized as follows.

1. Taiwan Environmental Data Warehouse (TENDW)

In order to integrate various environmental information into Taiwan Environmental Data Warehouse (TENDW), TEPA plans to construct an integrated data repository to consolidate and reconcile information from across disparate TEPA units and separate systems, including the Air Pollution Control System, the Water Permit Database, the Hazardous Waste Control System, and the Toxic Release Database. The TENDW system exchanges data through the usage of Web Services technology, XML file, with 25 different information systems which are mentioned above, to make the exchange process easier and more reliable.

The data extracted from heterogeneous sources can be transformed into a standard format so that it can be easily accessed by the public. Furthermore, the Data Warehouse can also create a powerful analytic platform for strategic decision-making.

2. TEPA Certifications for Customs Clearance Checking System (CCCS)

In line with the Facilitation and Networking of Trade Project, the TEPA initiates a system that connects with the Customs system for cross checking of the Permit and the Customs declaration to facilitate the cargo clearance procedures. The system can access the existing systems of the Department of Waste Management and the Department of Environmental Sanitation & Toxic Substance Management, in order to acquire permits information. This system also checks the customs declaration data (X801) against the relevant data items of the concerned permit to ensure the consistency between declaration and the permit of the cargo. Having done the checking, the system will return a message of X802 to the Customs system. The Customs system can proceed its following procedures with the X802 message. Through the checking process the cargo clearance can be completed without any paper work involved.

3. Taiwan Air Quality Monitoring Network 2 (TAQMN-2)

TAQMN-2 has led the establishment of 76 monitoring stations in different regions of the country. The pollutants monitored in TAQMN-2 stations include PM10, carbon monoxide, sulfur dioxide, nitrogen dioxide, and ozone. The meteorological instruments produce parameters, such as wind direction, wind speed, temperature, dew point and precipitation, which can make the forecast of air quality more accurate. Some



sophisticated equipment has been added to the list in order to measure acid rain, hydrocarbons, PM2.5, ultraviolet-type B, etc, and standardize the use of environmental geographic layer formats and coordinates.

A brand new PC-based Data Acquisition System was developed to collect all devices data in north super-site. The PC-based Data Acquisition System is an open architecture system and provides much more flexibility and scalability. This system turns the north super site from a closed system into a real time online web-based system.

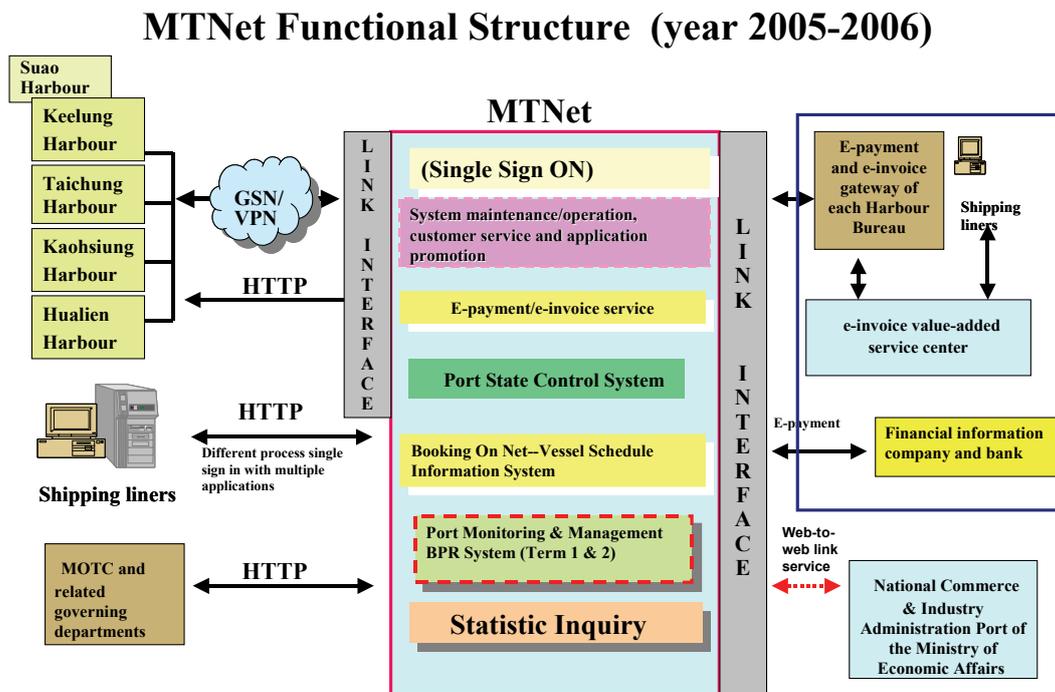
4. Water Quality Data Exchange System (WQDES)

The purpose of this system is to provide a platform for water quality data exchange, integration, and sharing in Taiwan. Currently, there are many organizations and agencies, including federal government agencies and local communalities, involving the work of water quality monitoring. It is very difficult to share water quality data since the information typically resides on geographically disparate and heterogeneous databases in different data formats and semantic. WQDES adopted XML as a standard for water quality data exchange among different agencies and implemented a number of software toolkits that can assist each agency to transform their data to a XML file, making the data exchange more efficiently.

3.4 Transportation

3.4.1 The Ministry of Transportation & Communications (MOTC) launched the “Maritime Transportation Net (MTNet)” since 2002, which acts as the integration architecture to be a key channel for business parties’ information exchange of marine transport and seaport stevedoring. Figure 4 shows the current structure of MTNet.

<Figure 4 : Structure of MTNet>



3.4.2 The "e-Payment and e-Invoice system" is implemented under the MTNet for developing a network service application which users are able to complete payment operation in a single application entry point. In 2007, Kaohsiung port, Hualien port, Taichung port, Keelung port and Su-Ao port on line promote more users.

3.4.3 The "Navigation Administration Control" of MTNet has used Business Process Reengineering (BPR) method to build a "customer-oriented" administration system to save the time of application process. In 2007, the "Shipping Industry Management System" of MTNet will offer users to manage the institution of Shipping Industry, registration of changes, management of ship line, freight rate controlled. Its purpose is to preserve methodical marine transport. The "Entry and Departure Port Clearance Management System" of MTNet has offered users to apply for vessel entry and departure port clearance, verify every certificate of vessel, seaworthiness document and amount of crew to dispose for safety, in order to check on shipping safety. The "Vessels Management System" of MTNET has offered MOTC and Harbor Bureau



officers to manage Vessels of Chinese Taipei on ship purchasing/building, ship registrations, S.I. (Ship Inspection) and certification issues. The "Marine Technologist Management System" of MTNET has offered users to maintain and manage training records, serving experience on ships, hire qualification/permission, and certification issues of Marine Technologists.

3.4.4 The "E-Delivery-Order System" of MTNet completes its pilot run in 2007.

3.4.5 The "National Harbor and Stevedore Services integrated system" of MTNet offers users integrated interfaces and control of most of harbor and stevedore service functions that are currently different from harbor to harbor in 2007.

3.4.6 The "Port Access Passes system" of MTNet offers users applying for ports of Keelung, Taichung, Kaohsiung and Hualien long or short-term access passes in 2007.

3.5 Customs

Chinese Taipei Customs has developed EDI messages for sea cargo and air cargo full-scale automation since 1994. With the firm and stable foundation of EDI system accompanied by other important measures to simplify Customs procedures, the Customs stakeholders enjoy facilitative and rapid Customs clearance. For those cargoes without document review and physical examination, the average release time has minimized to 3 minutes from the moment the Customs accepts the declarations transmitted from Vans or Customs' website. Customs clients can also easily retrieve the Customs clearance related data from the Customs' website.

The Customs and the licensing authorities completed an ebMS gateway mechanism in August 2005. Through this gateway, the public may apply to 15 agencies for import/export licenses/certificates as of 2007, including the Bureau of Foreign Trade, Bureau of Animal and Plant Health Inspection and Quarantine under the Council of Agriculture, Bureau of Standard, Metrology and Inspection, National Communications Commission, National Treasury Agency, and Bureau of Energy and Industrial Development Bureau, among others. The submitted data are used both for import/export application and Customs declaration; only few lines should be added for the difference. The ebMS gateway project has reduced over 5 percents of declarations needed to be document reviewed which results in the reduction of Customs release time. More administrations will be involved this year, which no doubt will enlarge the

synergy of data exchange between individual agencies.

Since February 2006, a Web-based e-payment system has set up to provide diversified, convenient, and 24/7 payment services for duty payers. Customs duty and taxes can be paid over Internet with credit card or using banks' account. The transactions have been increasing month by month, and the total amount paid through this channel reached NT 6.3 billion dollars by June 2008. The growth trend is expected to be optimistic and continuous.

In January 2008, a mobile clearance service platform was established, which enables customs officers who work out of the office to access customs internal system and receive crucial messages automatically through the 3G/3.5G communication network by using the mobile devices like PDAs and notebooks. The platform can create a wireless, flexible, safe and convenient clearance environment, which is expected to raise the efficiency of both the cargo clearance and smuggling detection.

By continually modernizing the information system and keeping track of the progress of international standards development, the Customs also makes every effort to offer secure environment besides facilitating Customs clearance. In March 2005, the Customs was granted with a certificate issued by the British Standards Institution on compliance with the criteria of BS 7799: Part 2:2002 Specification for Information Security Management Systems (ISMS) regarding Clearance System, EDI System, etc. In April 2007, the Customs further passed an external audit further and gained a certificate on ISO/IEC 27001:2005 (CNS27001). With the above verifications, the Customs is assured to create more favorable and secure information environment for both of the Customs officers and the traders in the trend of globalization and liberalization.

3.6 Finance

3.6.1 Current Status of FEDI Standards Application:

Refer to UN/CEFACT/EWG electronic data exchange standards:

Application System	Related Messages	Indexes
Payment process	PAYEXT、CREEXT、DEBADV、 BANSTA、AUTACK	D.95A
Control	CONTRL	D.94W
Cross-bank payment process	FINPAY BANSTA	D.95 Draft D.95A



L/C process	DOCAPP 、DOCINF 、DOCADV 、 BANSTA 、DOCAMR 、DOCAMI 、 DOCAMA 、DOCARE 、AUTACK	D.95B
Lump-sum payment process	PAYMUL 、DIRDEB 、DEBMUL 、 CREMUL 、BANSTA 、FINPAY 、 CREMUL	D.95A
Foreign currency payment process	PAYEXT 、CREEXT 、DEBADV 、 BANSTA 、AUTACK	D.95A
Notice process	APERAK	D.95A

3.6.2 Current Status of Finance development using EDI:

Subscribers:

- Financial organizations: 27
- Clients: more than 8,000 users in the fields of Electric, Information Service, Transport, Trade, Medicine, Pharmaceutical Industry, Chemical Industry, Finance and so on.

3.6.3 Transaction volumes:

- In 2007, cross-bank transactions through Financial EDI reached 3,012,961 deals in total, the total amount of money was 91,145 million US dollars and the average amount per deal was USD 30,300.

	Transaction	Total amount of money	Average amount per deal
2005	2,617,142	82,150 million US dollars	US\$ 31,400
2006	2,774,598	81,092 million US dollars	US\$ 29,300
2007	3,012,961	91,145 million US dollars	US\$ 30,300

3.6.4 Message Development of XML Standards:

Regarding the development of e-Commerce financial messages, the following XML messages are designed for electronic data exchange between clients and banks. The messages are based on IFX (Interactive Financial Exchange) XML Implementation Specification v.1.4.

Base services:	Service Account Inquiry Request/Response Service Profile Inquiry Request/Response
Bank services:	Account Inquiry Request/Response Balance Inquiry Request/Response Deposit Account Statement Advise Request/Response Deposit Account Transaction Inquiry Request/Response
Pay services:	Payment Add Request/Response Checksum Add Request/Response Payment Modification Request/Response Payment Cancellation Request/Response Payment Audit Request/Response Payment Synchronization Request/Response Payment Inquiry Request/Response
Account aggregation:	Balance Inquiry Request/Response Deposit Account Statement Advise Request/Response
Financing/Factoring:	Credit Line Add Request/Response Reimbursement Account Add Request/Response Reimbursement Account Modify Request/Response Reimbursement Account Cancel Request/Response Reimbursement Account Inquiry Request/Response Account With Bank Modify Request/Response Account With Bank Inquiry Request/Response Financing Bank Inquiry Request/Response Credit Line Inquiry Request/Response Financing Document Add Request/Response Financing Document Cancel Request/Response Financing Document Input Request/Response Document Inquiry Request/Response Financing Document Verify Request/Response Financing Document Inquiry Request/Response Draw Down Add Request/Response



Draw Down Cancel Request/Response
 Due Payment Notice Request/Response
 Reconcile Input Request/Response
 Supplier History Inquiry Request/Response
 Notification: Financing Synchronization Response
 Notification: Payment Synchronization Response

Funds Transfer: Transfer Add Request/Response
 Transfer Synchronization Request/Response
 Transfer Audit Request/Response

The Bill Presentment Service:
 Biller Inquiry Request/Response
 Bill Inquiry Request/Response
 Bill Status Modification Request/Response

3.6.5 Current Status of Finance development using VML:

Subscribers:

- Financial organizations: 18
- Clients: more than 700 users in the field of Electric, Information Service, Transport, Trade, Medicine, Pharmaceutical Industry, Chemical Industry, Finance and so on

3.6.6 Transaction statistics:

- In 2007, cross-bank transactions through Financial XML reached 105,365 deals in total and the total amount of money was 1,202 million US dollars and the average amount per deal was USD 11,400.

	Transaction	Total amount of money	Average amount per deal
2005	32,069	454 million US dollars	US\$ 14,200
2006	57,214	646 million US dollars	US\$ 11,300
2007	105,365	1,202 million US dollars	US\$ 11,400

The Bankers Association of Chinese Taipei participates in IFX activities actively - not only participating in Banking /Branch banking / Web services working groups also in the Steeling Group. We wish to introduce IFX standards into Asia to help promoting electronic data interchange between trading partners and facilitate e-business.

3.7 Health Care

The "Project of Establishing a Patient-First Environment for Electronic Medical Record Exchange" as launched by health and medical care work team in 2007 included the following tasks: 1. Publicly recruiting 10 medical centers, of which 1 department were selected and introduced with the electronic medical record template; conducting electronic medical record exchange between hospitals and releasing electronic medical records to the public by submitting an application for it; 2. Planning for the amendment and formulation of laws and regulations about electronic medical record exchange between hospitals; 3. Holding training courses for technical personnel of electronic medical records. During the implementation of this project till June 30, 2008, 1,338 people had applied for electronic medical records at the 10 medical centers. In the second half year of 2008, the work team will focus on drawing up the standards of electronic medical record template, providing a standard template to all medical care institutions for the audition by the Bureau of National Health Insurance or hospital accreditation.

3.8 Construction and Planning

Implementation of Public Construction Information System

The Executive Yuan approved a five-year "Public Construction Information System Plan" in 2002. The goal of the plan is to establish an integrated cross-ministerial implementation mechanism, set up strategies related to electronic operations, set common data-exchange standards, and build a public construction databank and other elements of the electronic infrastructure, so as to effectively implement the e-procurement of public construction. The plan was implemented from 2003 through 2007, with the following achievements recorded in 2007:

1. Fourteen data exchange standards and their message implementation guides were completed to facilitate the sharing of engineering information: document indexing, general engineering document metadata, contract metadata, construction specification metadata, general engineering volume metadata, construction plan metadata, completion report metadata, general engineering drawing metadata, design drawing metadata, as-built drawing metadata, general engineering record metadata,



meeting minutes metadata, engineering photograph metadata, and engineering video metadata. By the end of 2007, there were 47 sets of XML-based data exchange standards, which cover mainly 2 categories – government procurement and construction management, as listed in Table 1. Besides, 61 engineering terms were added to the Public Construction Data Dictionary in 2007, accumulating the total number of definitions to 1,060. It contributes a lot to the uniform use of the vocabulary of construction and promotes the e-Enabling of construction information systems.

2. In the effort to build up a public construction data sharing mechanism and promote the value-added application and sharing of data among systems, so as to upgrade the performance of construction management and extend exchange standards for engineering daily report, guidance was provided to a total of 118 units (including 18 agencies, 27 construction supervision units and 73 construction companies) and 114 bid cases. A total tender value of more than NT\$24.4 billion was related to the exchange standards for engineering daily report.
3. Guidance was provided to five consulting firms in carrying out the introduction and transmission of annual business report data. More than 1,700 items were transmitted, reducing the time required for completing forms from two hours to five minutes and saving each consulting firm 320 man-hours per year.
4. Ten on-site training programs for 180 trainees were held to develop seed personnel for the extension of engineering data exchange standards, facilitating the promotion of the e-Enabling of public construction.

With all these efforts devoted to the development of exchange standards, we expect to have more standards published in 2008 to cover the life cycle of construction projects. With the establishment of information infrastructure in the construction industry, both public and private sectors can benefit from the convenience and efficiency of using public construction data exchange standards.

□ **Table 7 : Standards Announced for Data Exchange in Public Construction in Chinese Taipei as of December 31, 2007**

Category	Type	Standard Item
Government Procurement	e-Tender Management	(a1) InstructionTender (a2) ETender Sheet (a3) Tenderer Statement (a4) JointTendering Agreement Template (a5) Construction Work Contract (a6) Service Contract (a7) Property Contract (a8) Tender Log (a9) Tender Notice (a10) Tender Submit Document Structure (a11) Tender Submit Contract Document (a12) Tender Award Notice (a13) Tender No Award Notice (a14) eCost Certificate
	Common-Supply Purchase Order Management	(b1) Demand Inquiry (b2) Procuring Entity Registry (b3) Procuring Entity Demand (b4) Supplier Registry (b5) Product Specification (b6) Inter Entity Supply Contract (b7) Purchase Order (b8) Notification
Construction Management	B2G Project Progress Control	(c1) Daily Report (c2) Progress Report
	G2G Program Progress Control	(d1) Program Control (d2) Project Control



	PE and Consulting Firms Management	(e1) Annual Business Report (e2) Major Engineer List (e3) Engineer Sign List (e4) Training Score Data
	Engineering Documents' Meta Data	(f1) Document Index (f2) Meta General Engineering (f3) Meta General Engineering Volume (f4) Meta Contract (f5) Meta Construction Specification (f6) Meta Construction Plan (f7) Meta Complete Report (f8) Meta General Engineering Drawing (f9) Meta Design Drawing (f10) Meta As Built Drawing (f11) Meta General Engineering Record (f12) Meta Minute (f13) Meta Engineering Photo (f14) Meta Engineering Tape (f15) Drawing Attribute (f16) Review Comment List
Others	Transport Protocol	(g1) eEnvelope

INDIA Progress Report



**eTrade Division
Department of Commerce
Ministry of Commerce & Industry
Government of India
New Delhi**



2008 Members Progress Report : INDIA

SECTION I – GENERAL CONDITION UPDATE

1.1 Electronic Commerce (EC)/Electronic Data Interchange (EDI) Users

The Internet marketplace is destined to continue to grow and expand over the course of the next decade. In India also retailers of many types are enjoying soaring sales via the Internet, and most national retail chains have carefully developed bricks and clicks strategies that integrate their online efforts with their stores and catalogs. At the same time, many online-only retailers are finding that their revenues are growing rapidly as more and more consumers begin to rely on the convenience of shopping online. E-commerce is booming. Broadband Internet access has finally become mass market in scale. Access by broadband methods, including DSL, cable modem and satellite, has reached critical mass.

People have started to realize the importance of Internet in their lives where it is not just a communication mode to email, chat and get information but has become an enabling tool to perform various tasks over Internet like learning, networking, shopping, gaming and expressing themselves in the form of blogs to the extent of establishing a virtual world for themselves. There are approx. 52 million active internet users as of March 2008 in India.

Users from non metro and small towns are increasingly experiencing their tryst with this new medium. This is evident from the fact that their contribution to Internet user base is increasing. As more users from the non metros show their interest in becoming a part of the Internet Community the digital divide is poised to reduce in the years to come. This change is due to increasing computer literacy and awareness and good word of mouth of this medium.

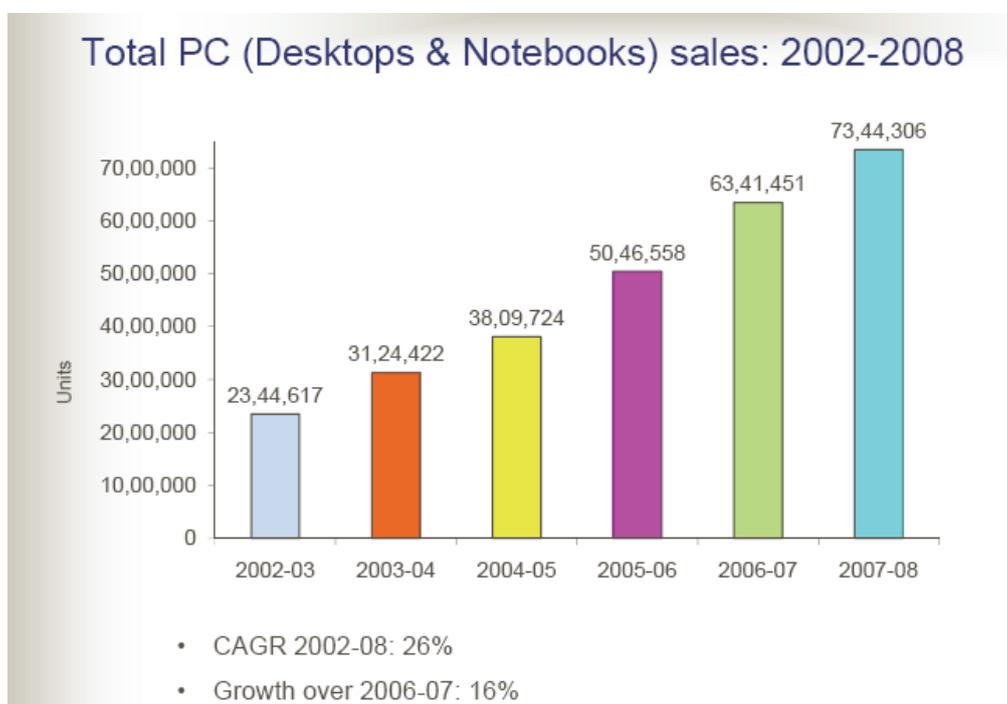
Department of Information Technology has projected over 28 per cent rise (in dollar terms) in the total value of software and services exports in 2007-08. In 2007-08, the software and services industry continues to show a robust growth and the total value of software and services exports are estimated at \$ 40.3 billion compared to \$31.4 billion in 2006-07, an increase of 28.3 per cent in dollar terms, DIT said in its estimate. The electronics and IT exports are estimated to be \$ 43.27 billion in 2007-08 compared to \$ 34.19 billion in 2006-07.

As per industry body National Association of Software and Services companies (Nasscom) the overall IT-BPO industry, including the domestic market, recorded a 28 per cent growth to touch 52 billion dollar revenue in 2007-08. The IT industry body had said the software and services revenue is expected to grow between 21 and 24 per cent in the current fiscal, with the export segment forecast to reach 50 billion dollar.

1.2 EC Market size & Growth

The adoption and usage of E-Commerce in the country is a function of the overall environment for Internet usage in a country. To correctly understand the likely growth path for E-Commerce in a country, some of the key variables that need to be understood are the proportion of computer literates, internet penetration, frequency of access to the internet, purpose of internet access etc. A correct mapping of these would help in understanding the overall framework of E-Commerce in the country.

As per Manufacturers' Association for Information Technology (MAIT), the industry body for IT hardware manufacturer's in India the total PC sales between April 2007 and March 2008, with desktop computers and notebooks taken together, were 7.34 million units, registering a growth of 16 per cent over the previous year. PC sales are projected to touch 8.5 million units in fiscal 2008-09. Notebook consumption has driven the PC market in India in 2007-08. With sales crossing a million units in the second-half of last fiscal, total sales of notebooks in 2007-08 surpassed 1.8 million units growing one-hundred-fourteen per cent over the last year. Today, notebooks account for a quarter of the total PC market in the country, up from less than three per cent four years ago.

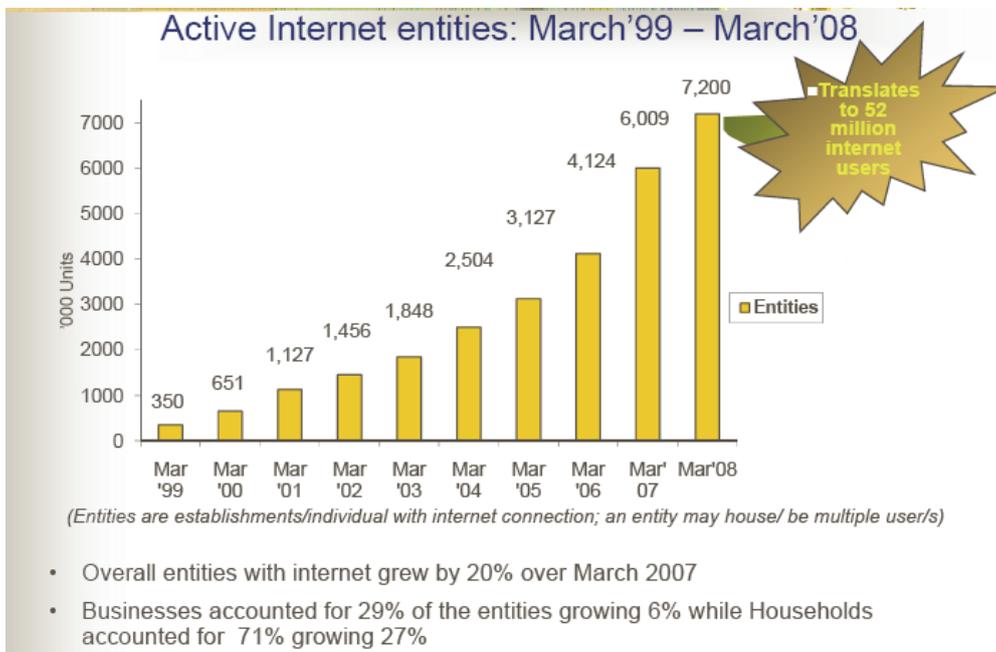


The number of active Internet entities has increased to 7.2 million subscriptions by



March 2008, while the figure was 6.0 million units in March 2007. With this the internet users exceeds fifty-two million. Internet penetration by entities in the top twenty two cities was forty-six per cent among businesses and twenty-one per cent among households. The businesses segment now accounts for twenty-nine per cent of the total active Internet entities and households account for the remaining seventy-one per cent.

DSL/cable remains the most commonly used means of Internet connectivity among businesses: forty-three per cent of businesses were found to DSL/cable, sixteen per cent dial-up connections, seven per cent leased-line, twelve per cent used data cards, two per cent used VSAT while eighteen per cent ISDN services.



As per Telecom Regulatory Authority, as of March 2008, the figures for wireline, wireless telephone/mobile and internet subscriber base are as given below:

Wireline services subscribers	–	39.42 million
Rural Wireline Subscribers	–	11.64 million
Village public telephone	–	5.60 lakh
Public Call Offices (PCOs)	–	6.19 million
Wireless subscribers	–	261.07 million

(Out of the 261.07 million wireless subscribers there are 192.70 million GSM subscribers (73.81%) and 68.37 million CDMA subscribers (26.19%) at the end of March 2008.)

Internet subscribers – 11.09 million

(Besides this, there are also 66.09 million wireless data subscribers at the end of March 2008 (capable of accessing data services including internet through mobile handsets (GSM/CDMA)).

Broadband subscribers (with a download speed of 256 Kbps or more) were 3.87 million at the end of March 2008. Out of these 3.87 million broadband subscribers, 3.28 million are DSL based; 0.37 million Cable Modem; 0.11 million Ethernet LAN; 0.05 million Fibre; 0.039 million Radio, Leased Line 0.016 million and 0.003 million use other technologies.

As per India Online 2008 survey, It has been a year of healthy growth in the Indian online space.

- 33% growth was witnessed in all urban users over last year
- 19% growth in regular urban users over last year

Growth has been both in class and mass of online users in India. 77 pc of all online users belong to the 19 to 35 age group category, 70 pc of the total users belong to the SEC A, B and C towns, 51 pc users are salaried employees, 63 pc users own an automobile and English is the most preferred language of reading for only 28 pc of Internet users (indicates the potential for vernacular language content).

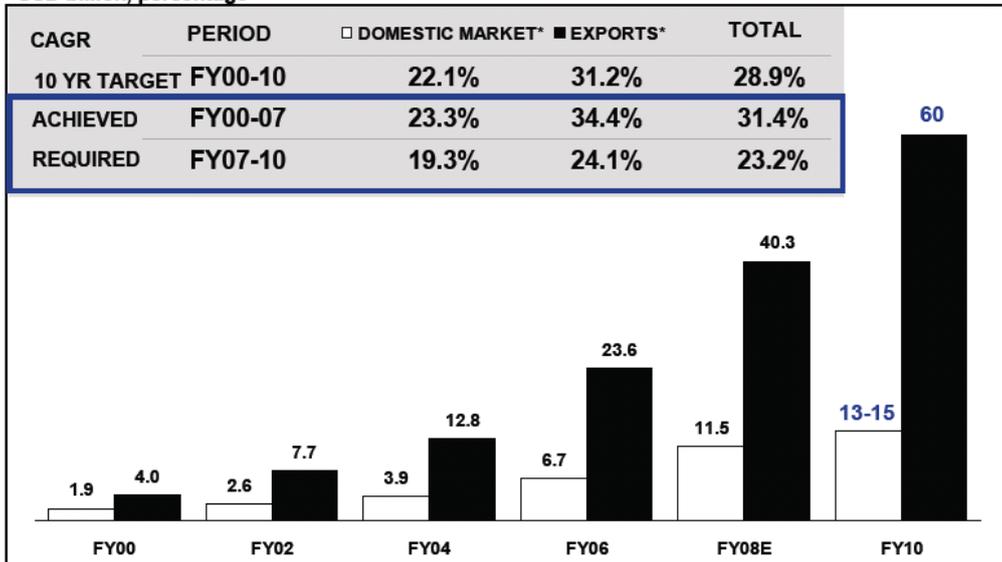
1 in every 3 online shopper 'buys' online.

- 80% of all regular online Indians 'shop' online. They either search or buy online.
- 23% have actually bought online in last 6 months - 8 million active online buyers
- 92% of all online buyers (23% of internet users) have bought a travel product online, 51% have bought a non-travel product online
- 80% of travel product buyers have bought train tickets, 52% has bought air tickets in last six months
- Books, Clothes and CD/DVDs are the most bought non-travel products online (Mobiles and Computer Products most searched)

As per industry body Nasscom there is strong optimism of the industry to achieve its aspired target of USD 60 billion in exports by 2010.



USD billion, percentage



* Includes IT Software and Services, ES and Products, as well as ITES-BPO

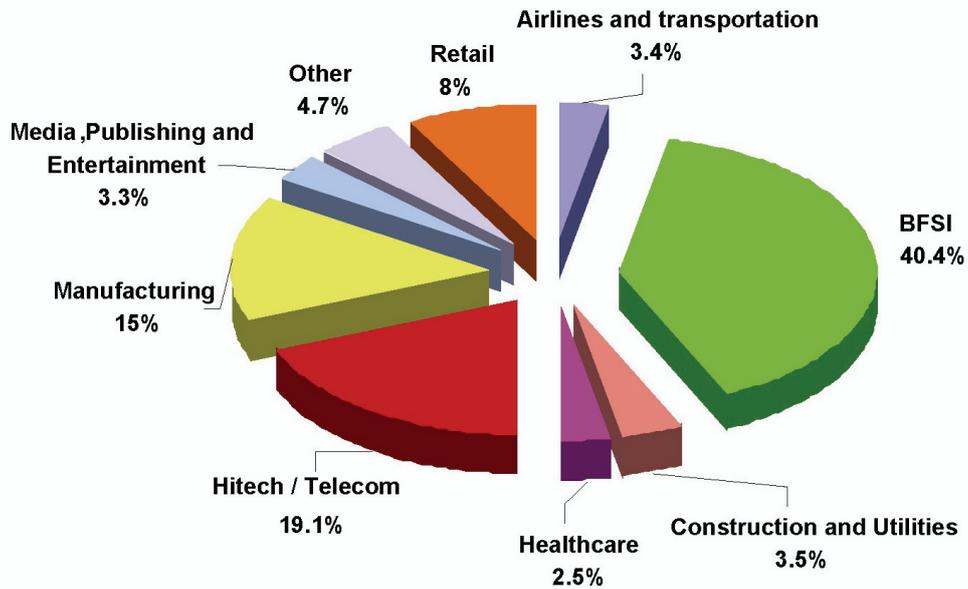
- Continuing on its established track-record, the overall Indian IT-BPO revenue aggregate (including the domestic and exports segments and excluding hardware) is expected to grow by over 33 per cent and reach USD 64 billion by the end of the current fiscal year (FY2008).
- Over the same period, direct employment in the sector is expected to reach nearly 2 million, an increase of about 375,000 professionals over the previous year.
- As a proportion of national GDP, the Indian technology sector revenues have grown from 1.2 per cent in FY1998 to an estimated 5.5 per cent in FY2008. Net value-added by this sector, to the economy, is estimated at 3.3-3.9 per cent for FY2008

Contributing 64 percent to the overall revenue aggregate, exports remain the mainstay of the Indian IT-BPO growth story. Software and services exports are expected to cross USD 40 billion and directly employ nearly 1.6 million professionals, in FY2008 – a commendable achievement over just about two decades.

- Broad-based growth, across all the segments of IT services, BPO, product development and engineering services, is reinforcing India's leadership as the key sourcing location for a wide range of technology related services
- IT services (excluding BPO, product development and engineering services), contributing 57 per cent of the total exports, remains the dominant segment and is

expected to cross USD 23 billion, a growth of 28 per cent in FY2008

- BPO services, accounting for over 1/4th of the export aggregate, is the fastest growing segment across software and services exports driven by scale as well as scope. Export revenues for this segment are expected to cross USD 10.9 billion, a growth of 30 per cent in FY2008
- Complementing the strong growth in IT services and BPO exports is the continued growth across product development and engineering services, which also reflects India's increasing role in global technology IP creation. Export revenues from these relatively high-value-added services such as engineering and R&D, offshore product development and made-in-India software products is estimated to be growing at over 28 per cent, and are forecast to reach USD 6.3 billion in FY2008
- BFSI, Telecom and Hi-Tech continue to account for approximately 60% of the market. Other verticals are also growing rapidly



**Knowledge Professionals employed in the Indian IT-BPO sector**

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08E
IT Services and Software Exports	162,000	170,000	205,000	296,000	390,000	513,000	690,000	865,000
BPO Exports	70,000	106,000	180,000	216,000	316,000	415,000	553,000	704,000
Domestic Market	198,114	246,250	285,000	318,000	352,000	365,000	378,000	427,000
Total	430,114	522,250	670,000	830,000	1,058,000	1,293,000	1,621,000	1,996,000

Source: NASSCOM

***Figures do not include employees in the hardware sector**

The booking of travel online is perhaps the most successful niche of all of the India's e-commerce efforts. Travel portals are outperforming in India. Consumers use the Internet to become better informed and to seek bargains. Online sites like makemytrip, yatra etc. steer millions of consumers toward specific airlines and hotels in a manner that lowers prices and improves satisfaction among consumers. We are experiencing an exponential growth in this vertical. Travel alone constitutes 50% of \$ 1.19 billion online market in 2007-08. It's expected that travel portals will grow 65% annually.

According to the Indian Marketing Research Bureau (IMRB) and Internet and Mobile Association of India (IAMA), in 2006-07 e-tail market was of \$210 million which is expected to touch \$273 million in 2007-08 with 30% of growth. E-tailing accounts for about 10% of the total e-commerce market. With today's net-savvy Indians making online purchase like never before, both the number and variety of products sold online has grown exponentially.

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Awareness and Education Programs

2.1.1 E-Commerce India 2008

The event with theme 'Successfully taking forward your e-commerce plans for continuous growth', held in New Delhi from 21-22 Jan. 2008. This even offered a great opportunity for all professionals in the e-commerce field to meet and discuss new ideas, challenges and future directions. The delegates delved on the next step of effectively implementing e-commerce strategies in an organisation. Delegates also got a clearer understanding of developing a comprehensive business plan, the different aspects of starting an online business and making the right decisions that fits a particular organisation. It brought together a mix of experiences with real-life illustration from various organisation and industries, both local and international and focused on the current and future trends of e-commerce in India for organisational development and how to achieve maximum ROI by successfully implementing e-commerce in any organisation.

2.1.2 eINDIA2008

The event was held in New Delhi from 29-31 July 2008 with focus on to examine the numerous challenges, to learn about the latest trends and talks, to share and work together, to analyze and assess, and to create actionable plans for leading technology enabled knowledge society. The conference rendered active conferencing, networking and showcasing while organising seven seminal tracks - egov INDIA, Digital Learning INDIA, Telecentre Forum INDIA, eHealth INDIA, mServe INDIA, Municipal IT, and eAgriculture INDIA. The Event provided a collaborative forum to 4000 participants to share knowledge and ideas enabling them to develop multinational and cross-industry contacts and partnerships, as well as to enhance their knowledge, expertise, and abilities. The event accompanied an exhibition and demonstration area where around 150 leading ICT industry players, solution providers, suppliers and service providers presented their latest products and services.

2.1.3 Workshop on Building Capacity for Impact Assessment

A two day workshop on Building Capacity for Impact Assessment of eGovernment Projects was conducted by Indian Institute of Management - Ahmedabad (IIMA) on February 26-27, 2007 as a part of the Department of IT sponsored project titled: a Study of the Impact of ICT Applications in the Public Sector in Developing Countries. The objective of the two day



workshop was to build capacity for impact assessment amongst different agencies/institutions that may engage in carrying out impact assessment studies in the future. The workshop was also to help to define the next steps in the evolving program for impact assessment under the umbrella of National E-Government Plan. Objectives of the proposed exercise was to carry out a detailed assessment of the impact on clients and a brief assessment of impact on work of employees (front line operators and supervisors). A common framework (IIMA study) will be followed in terms of the dimensions on which impact is to be assessed. A minimum set of indicators to measure the 5 key dimensions were listed in the presentation of IIMA study and were also provided in the material distributed to the participants.

2.1.4 Data Security Council of India (DSCI) - Self-Regulatory Organisation (SRO)

The DSCI is an independent, self-regulatory body which has been set up to establish, popularize, monitor and enforce privacy and data protection standards for India's IT and ITeS-BPO industry. It has also set up a 21 member Steering Committee to guide DSCI in the technical aspects.

DSCI is headed by a Board of Directors and a steering committee is also formed. The first meeting of the committee took place on 14 September 2007 and sub-groups were set up to look into current security status and the interests of organisations and develop a business model for DSCI.

2.2 Message Development Activities

A project entitled "Electronic Commerce (EC)/Electronic Data Interchange (EDI) for Trade (eTrade)" is being pursued by the Department of Commerce to facilitate the electronic mode of transacting business in the area of international trade. The project is pursued in agencies/organizations like Customs, Ports, Airports, Directorate General of Foreign Trade (DGFT), Banks, Container Corporation of India (CONCOR), Export promotion organisations etc who form part of the community partners of the project eTrade. United Nations Centre for Trade Facilitation and Electronics Business (UN/CEFACT) recommendations like UN/LOCODE, EDIFACT standards etc. have been integrated in the project and migration to UNeDocs is being planned. Container Corporation of India (CONCOR) has incorporated ISO standard codes in all the functionalities like check digit logic in container numbering, Container ISO Codes, UN Location codes for all ICD's/Ports etc. To standardize the message exchange between the community partners Customs and Ports are developing web based uniform system under centralized environment, with provision for UN/EDIFACT and translation facilities for integrating related tools.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

3.1 Regulatory Sector

3.1.1 Directorate General of Foreign Trade

3.1.1.1 Nature of Project

Directorate General of Foreign Trade (DGFT) is an organisation under Department of Commerce, Ministry of Commerce and Industry engaged in formulation of Foreign Trade Policy of the country and its administer. All types of licenses required for export and import within the country are issued by this organisation. The interface with trade and industry is provided by the 35 offices of DGFT scattered through out the country. EC/EDI implementation stipulates day to day electronic interface with trade and industry and related organisation for electronic delivery of services.

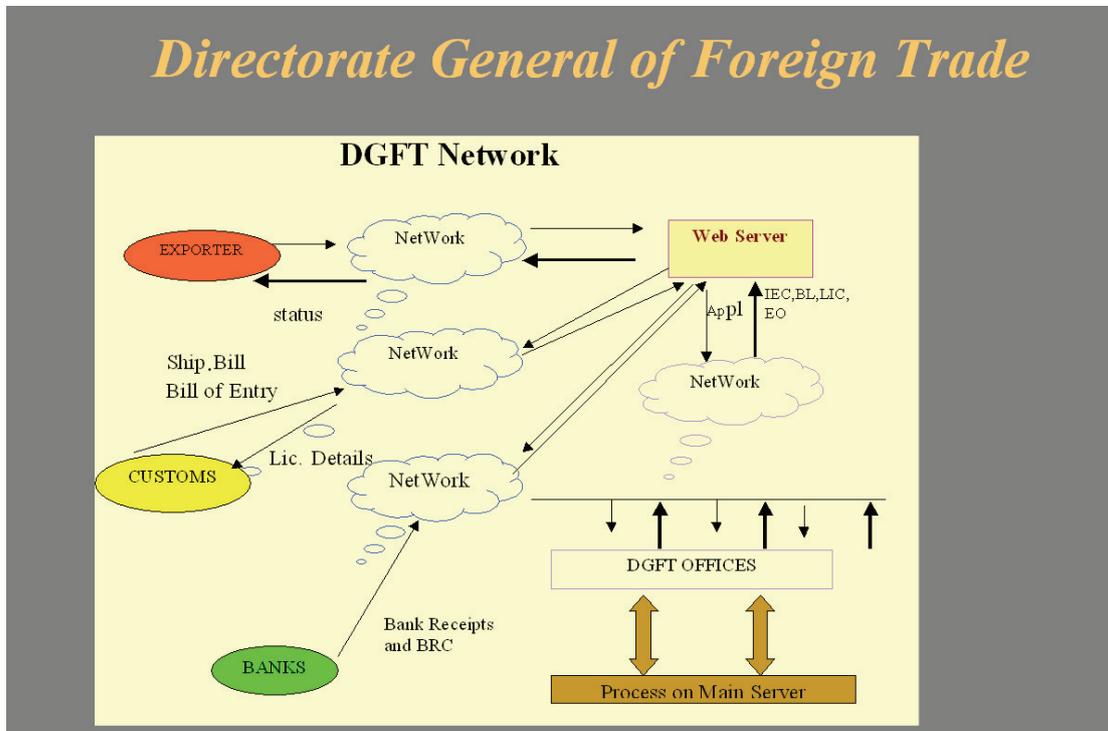
3.1.1.2 Status

Basic purpose of EDI initiatives is to improve services for DGFT user community, thereby achieving greater transparency of operations and reducing transaction costs by decreasing processing time for obtaining Authorizations from DGFT. DGFT has implemented an automated environment for electronic filing, retrieval and authentication of documents based on agreed protocols and message exchange with its community partners including Customs and Banks at all the 35 offices of the DGFT. The web based electronic application filing system facilitates on-line submission and processing of application in all the offices. Payment of licence fee is made through the electronic fund transfer mode (EFT).

Digital Signature have been integrated into the license application processing. Electronic data pertaining to Importer Exporter Codes, Duty Entitlement Pass Book (DEPB) shipping bills and DEPB licences are being exchanged with Customs. This has also obviated the need for verification of Authorisations before allowing clearance. The message exchange system with Customs is being extended to cover all categories of shipping Bills relating to different export promotion schemes.



Directorate General of Foreign Trade



3.1.2 Indian Customs EDI System (ICES)

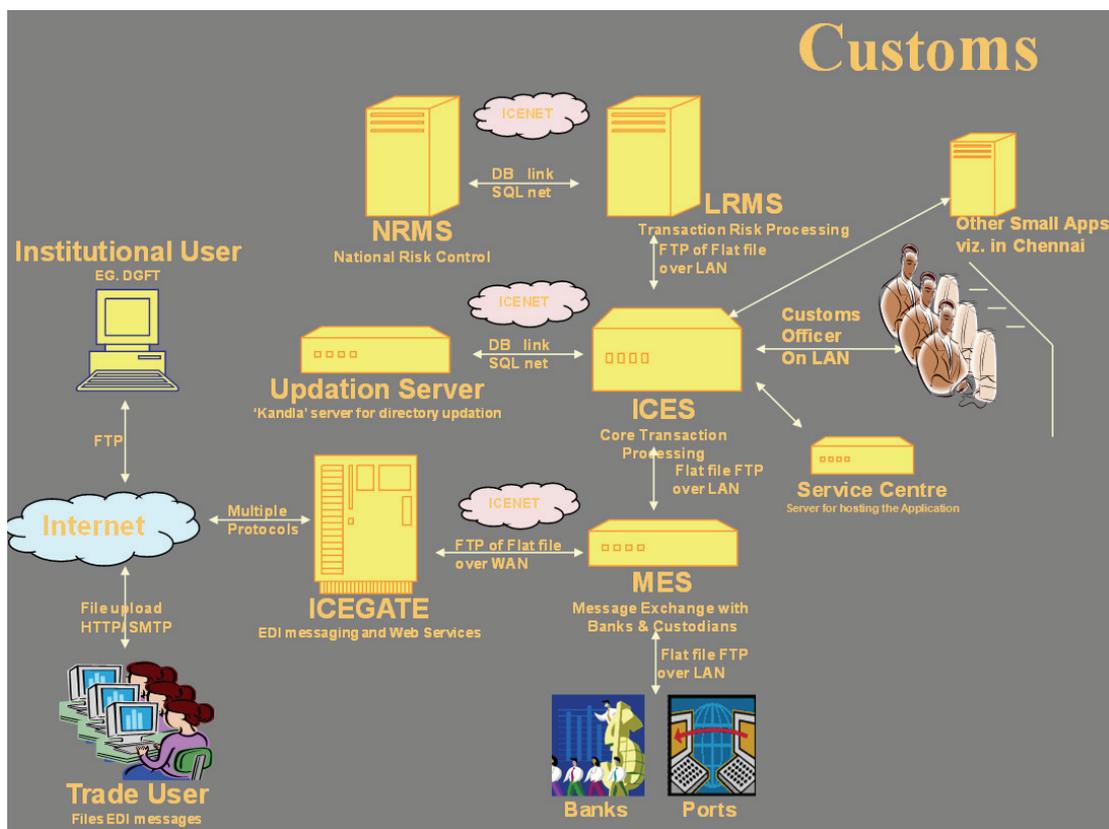
3.1.2.1 Nature of Project

ICES is a customs clearance system providing paperless transactions in the Customs House. The system is integrated with users and Bank. Import/export documents, Clearance messages are transmitted over the network to/from the Custom House Agents (CHAs) and trading community.

3.1.2.2 Status

The ICES provides online assessment, duty payment and clearances as well as connectivity with the custom house agents, banks, custodians like the Airports Authority of India, Port Trusts, Container Corporation of India etc, Reserve Bank of India, Export Promotion Councils, Director General of Foreign Trade, Director General of Commercial Intelligence and Statistics besides a host of other Governmental and Non Governmental agencies. It facilitates electronic filing, electronic messaging with community partners etc.

E-filing has been facilitated at 35 locations through the customs e-commerce gateway (ICEGATE), Risk Management System (RMS) has been started at 23 locations. ePayments have been facilitated at 35 locations and on a pilot basis it has been made mandatory for top 50 importers at Jawaharlal Nehru Port Trust (JNPT), Mumbai. Customs drawback payments are credited electronically in account selected by exporter in any core banking/RTGS enabled bank/branch (for all locations) throughout the country.





3.2 Port sector

3.2.1 Port Community System (PCS)

3.2.1.1 Nature of Project

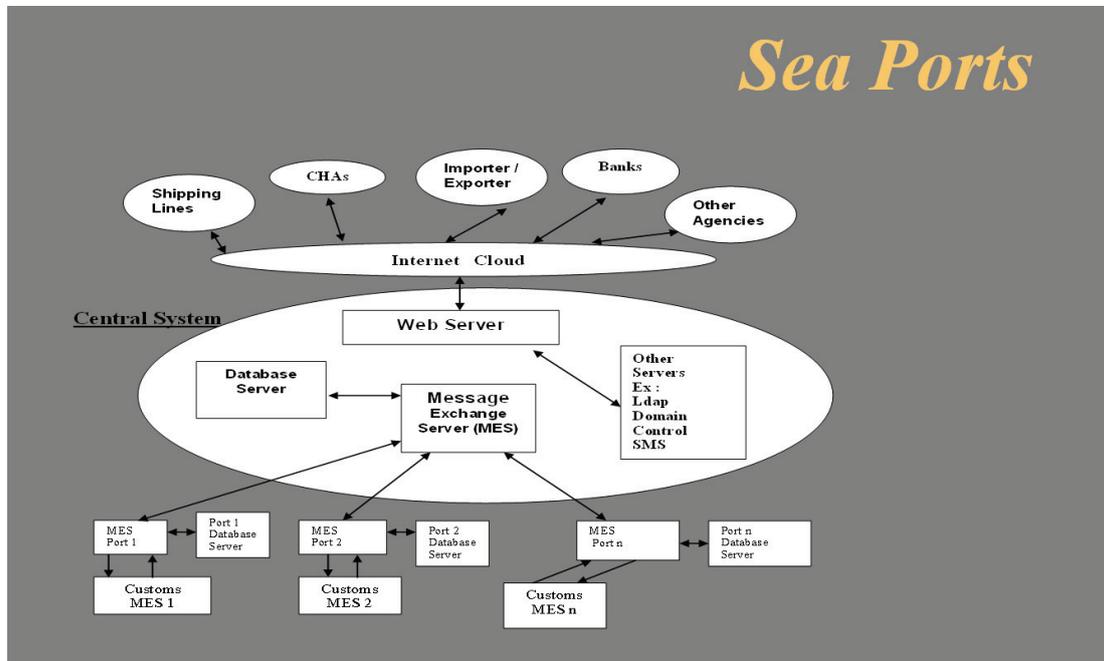
Port Community System (PCS) is intended to integrate the electronic flow of information across the trading partners involved in maritime transport chain through a common interface. The PCS, will function as the centralized hub for all the major ports of India and other stakeholders like Shipping Lines/Agents, Surveyors, Stevedores, Banks, Container Freight Stations, Government regulatory agencies, Customs House agents, Importers, Exporters, Transporters, etc. for exchanging electronic messages in secure manner. The main objectives of the PCS are to develop a centralized web-based application, which act as single window, for the community members/stakeholders to transact business electronically in secure fashion and to create a data repository for research and analysis.

3.2.1.2 Status

The Centralised Port Community web based system has been operationalised for the first phase consisting of 31 messages covering vessel and container related messages among Ports, Shipping Agents, Shipping/Container Lines, Container Freight Station and Customs House Agents. This phase went live on 31/12/2007.

The second phase consist of 17 messages covering Transport, Cargo and Finance related and e-payments. Three additional stakeholders viz CONCOR/Pvt Carriers, Stevedores and Banks are also covered in it. Cargo related messages have been made live on 31st March 2008. Transport related messages have been tested. Finance related messages are under testing and will be made live shortly. Linking for E-payment with Banks is in progress.

The third phase consists of around 50 messages covering Customs and other regulatory agencies. All the major ports are exchanging the messages with Customs electronically in decentralized manner. Nine customs related message have been released for testing on 27/5/2008 for integrating Customs System (Indian Customs EDI System) and Port Community System. Development of rest of the messages in respect of Port-Customs interface messages is in progress. The system is capable of accepting messages in various formats including EDIFACT, XML etc.



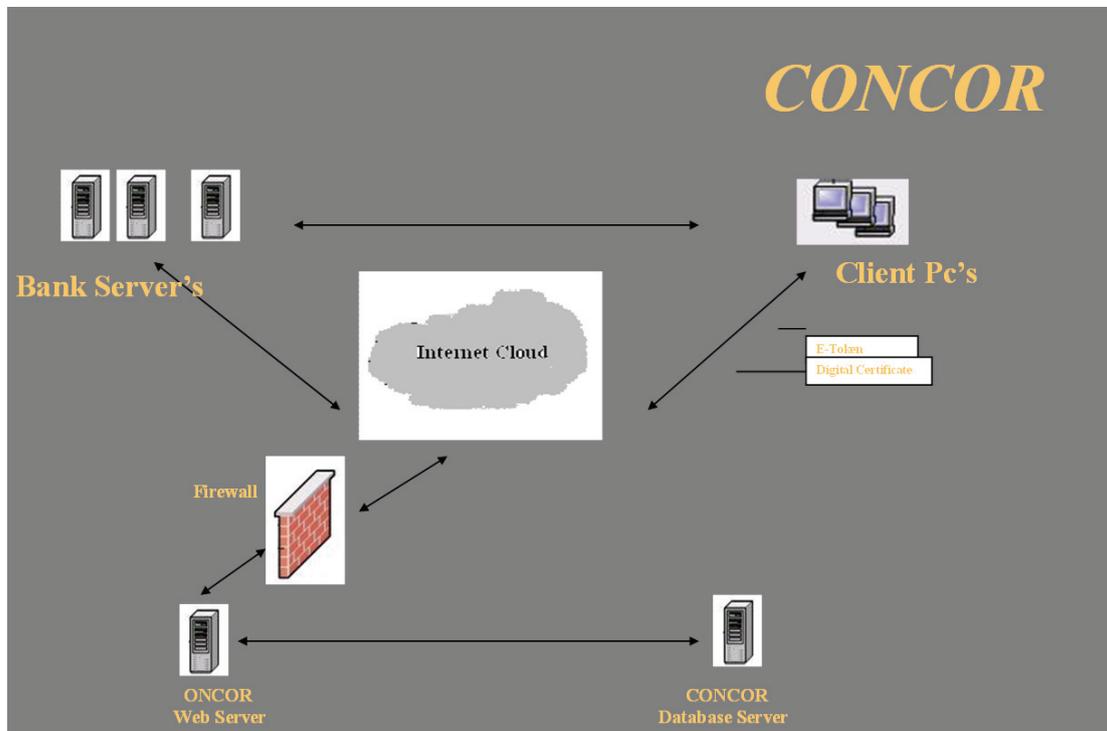
3.2.2 Container and Cargo Logistics System (CCLS)

3.2.2.1 Nature of Project

CCLS system has been developed for Inland Container Depot (ICD) at Tuglakabad. Various functionalities have been integrated into the CCLS system like Wireless Radio Data Terminals, EDI Linkages with Customs, Electronic Transmission of Inland way bills (IWB's) etc., making it most comprehensive and complete system for an ICD. In order to make the CCLS system, more customers friendly, Web Interface of it has also been developed so that any customer can file his documents electronically through Internet, at his convenience without coming to ICD.

3.2.2.2 Status

The project is serving the entire export / import trade like shipping agents, exporters, importers and clearing agents in filing their documents and getting the exact status of a container round the clock in a secured way. Application has also been integrated with major banks, so that customers can directly credit their pre deposit accounts through net banking facility. The online container tracking system is integrated with Indian Railways to provide exact location of container on a route.



3.3 Air Sector

3.3.1 Nature of Project

The community partners in Air sector facilitates EC/EDI based processing into the clearance of export and import consignments. The community partners in this case are custodian of cargo called Airports Authority of India (AAI), Airlines, Customs, Banks, Agents etc. The EDI based cargo handling system and Electronic interface between trading partners is to be established. Barcodes are also integrated for the handling of import and export cargo for instant data capturing and online updation without manual intervention.

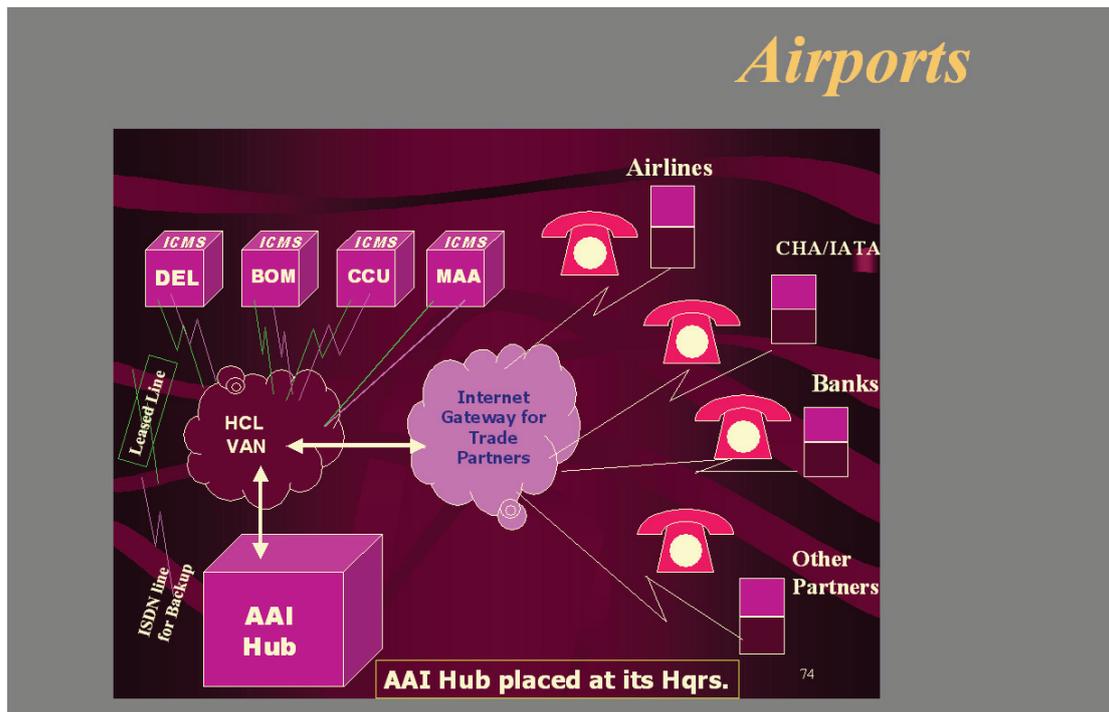
3.3.2 Status

The seven major airports at Delhi, Mumbai, Kolkata, Chennai, Hyderabad, Bangalore and Trivandrum have established electronic message exchange with Customs. A web based system for custodian's of cargo at airports electronic interface with its community partners like Airlines, Agents, Bank is operational. All export transactions at Delhi, Mumbai, Chennai, Kolkata and Trivandrum airports are done through the system. The import transactions have

also been started through this system at Delhi and Mumbai. The payment of Custodian's Terminal / Handling Charges are also made conveniently through web based EDI. These stages of activities are being done by the Agencies / Airline electronically from their offices and therefore they need not to come to Cargo Terminal at Airport.

Bar Code system for faster and automatic data capturing in export and Import section at flight segregation point has also been implemented. This updates the movements of the cargo during warehousing and processing of Import cargo. State of art equipments like HHRDT i.e. Hand Held Radio Data Terminal, VMRDT – Vehicle Mounted Radio Terminal and Barcode Printers are being use to undertake the smooth implementation of Barcode system. The agencies are required in Cargo Terminal only for physical tendering of their export cargo, taking deliveries of their import cargo and Customs examination, which has proved as a real trade facilitation measure for the users of Cargo Terminal.

For disposal of un-cleared / Un-claimed Import cargo lying at cargo terminal, in more transparent and faster way, Delhi airport has also implemented a system for 'e'-Auction.





3.4 Financial Sector

3.4.1 Single Core Banking Enabled Account of exporter/importer for all receipts/payments at national level

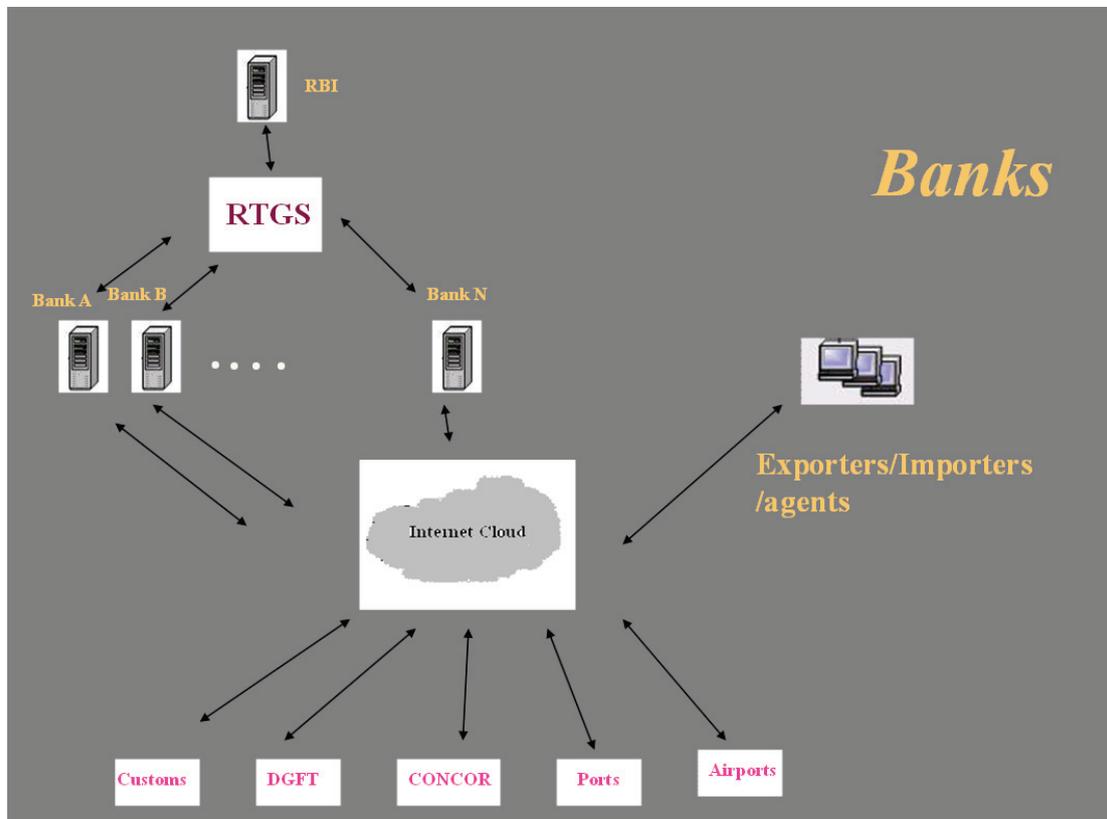
3.4.1.1 Nature of Project

The project is for implementation of intra-bank, inter-bank, and bank-user electronic interface establishment for facilitation of electronic receipts/payments enabling exporter/importer to transact with various agencies using a single core banking enabled bank account.

3.4.1.2 Status

Banks have established electronic message exchange with major players in International Trade like Directorate General of Foreign Trade, Customs, Ports, Airport, Container Corporation of India etc. The Real Time Gross Settlement(RTGS) has been made operational by Reserve Bank of India. The usage of RTGS for interbank payment and large value customer transactions has been growing consistently. At the end of December 31, 2007 the number of RTGS enabled branches reached to 36,677. The netbanking facility permits payment of customs duties online. The drawback payments have also been brought on netbanking and drawback payments are made by Customs authorities in exporter's account in any core banking enabled branch/bank throughout the nation.

In the present environment the ePayments are done within the intra-bank domain. The facility for enabling exporters/importers to transact with various agencies using their single core banking enabled account is under process. This would facilitate inter-bank online receipts/payments.



SECTION IV – Other IT – enabled Service (ITeS) in Trade and Industry Sector

4.1 eProcurement

4.1.1 Nature of Project

The project is for facilitation of faster adoption/ implementation of electronic procurement in government, at central/ state levels. Processes in an integrated procurement cycle comprise of

- i) Pre-procurement processes [viz: Indenting, Requirement consolidation and Raising



request for procurement],

- ii) Procurement processes [viz: Tendering (tender preparation/ tender floating/publishing, pre-bid meetings etc.), Bidding (tender search/download, bid preparation/ secure submission & tender fee payment etc.), Bid Opening/ decryption, Tender evaluation (pre-qualification, technical, financial) and Award of contract] and
- iii) Post Procurement processes [viz: Contract management, Inventory control, Bill processing/ payments, Supplier/contractor performance rating etc].

Electronic procurement, though encompasses all the processes in the cycle, but primarily concerns with the 'procurement processes per se', i.e. Tender preparation & publishing, Fee payment & Bidding, Bid Opening/ decryption, Tender evaluation and Award of contract. The stress is on ensuring that the benefits out of eProcurement initiative really flow to the intended stakeholders.

4.1.2 Status

- Electronic publication and dissemination (on government procurement portals) of procurement information (e.g. Tender notices/ details/ documents, Contracts/Orders etc.) has been made mandatory in the government sector.
- Electronic Procurement is being made mandatory above a decided threshold value of procurement, in state/ central government departments.
- National Informatics Centre (NIC) has developed a generic e-Procurement solution, which could be easily and widely adopted by any Government department/organization to introduce electronic procurement.
- Various State & Central government departments, organizations and public sector units are steadily but surely adopting eProcurement.
- Many of them have also implemented Electronic Auctions as well.

4.2 eIPO (Intellectual Property Office)

4.2.1 Nature of Project

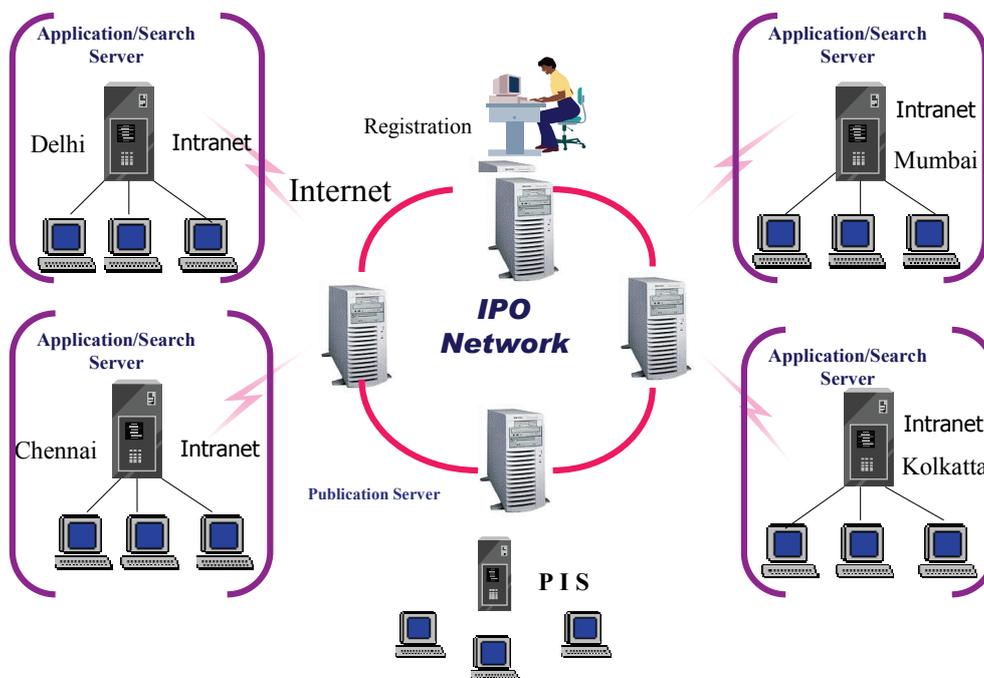
E-filing is a new service provided by the Intellectual Property Office, India in order to enable customers to apply for a patent on-line allowing the User to complete an electronic application form, provide the associated attachments and complete the necessary payment details. It provides the facility to

- i) Receive a Patent application number immediately

- ii) On-line verification to assure error-free filing and obtain your filing date
- iii) Speed up the registration process
- iv) Print the completed application data and receive fee acknowledgement
- v) Save the data locally in your PC and
- vi) Be able to recall your contact details for subsequent applications.

4.2.2 Status

The e-filing of the patent application in India commenced in 2007 when online filing of Patents and Trademarks application facility was inaugurated. With the launch of e-filing facilities, the applicants can file their patent and trademark applications from anywhere in the world at any time at their convenience through Internet. Payments can also be made through the Payment Gateway of authorised bankers, which would save time and money and the hassles involved in visiting and filing the applications in the office. The target of the Patent Office is to reach 97% e-filing in a couple of years.





4.3 eServices of Ministry of Corporate Affairs (MCA21)

4.3.1 Nature of the Project

The MCA21 project is designed to fully automate all processes related to the proactive enforcement and compliance of the legal requirements under the Companies Act, 1956. This helps the business community to meet their statutory obligations. From the customer perspective, the Front Office operations assume significance, which are administered through the Front Office portal. The entire Back Office operations of the MCA is automated so as to achieve the objective of a user friendly computerized environment. MCA portal is the single point of contact for all MCA related services, which can be easily accessed over the Internet by all users.

4.3.2 Status

The following eServices are now available under the project:

- Registration and incorporation of new companies
- Filing of Annual Returns and Balance Sheets
- Filing of forms for change of names/address/Director's details
- Registration and verification charges
- Inspection of documents
- Applications for various statutory services from MCA
- Investor grievance redressal.

The key benefits of MCA21 project are as follows:

- On line incorporation of companies
- Simplified and easy mode of filing of Forms/ Returns
- Registration as well as verification of charges anytime and from anywhere
- Inspection of public documents of companies anytime from anywhere
- Corporate-centric approach
- Building up a centralized database repository of corporate operating in India
- Enhanced service level fulfillment and customer relationship building

- Total transparency through eGovernance
- Timely redressal of investor grievances

4.4 GrapeNet Traceability System

4.4.1 Nature of the Project

Agricultural and Processed Food Products Export Development Authority (APEDA) initiated GrapeNet in 2006-07 as a first initiative of its kind in India in the Indian Fresh produce sector, to put an end-to-end system for monitoring pesticide residue, achieve product standardization and facilitate tracing back from retail shelves to the farm of the Indian grower, through the various stages of sampling, testing, certification and packing. All stakeholders namely Farmers, State Government Horticulture Departments, The testing laboratories, Agmark Certification Department, The Phyto-sanitary department, Pack houses, Exporters, etc. actively participated in the project. GrapeNet 2008 is an interactive web-based software system and requires only a Internet connection.

4.4.2 Status

The said traceability system has integrated all the stakeholders in the supply chain of Grapes export from India, with a centralized database. Training programs were conducted in major centers like Nashik, Pune, Hyderabad, Mumbai and Bangalore to sensitize and train farmers and exporters on the Grapenet system. The data is centrally maintained and managed at APEDA's own data centre in its headquarters, protected by firewalls and other security infrastructure. The access to the data is restricted by an authenticated username and password; each user gets to access only data relevant to his role and geographical coverage. As a result, every consignment of fresh grapes during the last season from India to European Union was monitored through this system and no consignment was rejected due to quality reasons. The export of fresh grapes from India to European Union has increased by 100% plus in the last year. The per unit realization has seen a growth directly for exporters and indirectly for farmers due to the stringent standards defined and monitored in the grapes sector in India.



IRAN Progress Report



Islamic Republic of Iran
Ministry of Commerce
Deputy Ministry for Planning and Economic Survey
ECommerce Development Office

2008 Members Progress Report : IRAN

SECTION I – GENERAL CONDITION UPDATE

1.1 E-Commerce Strategies

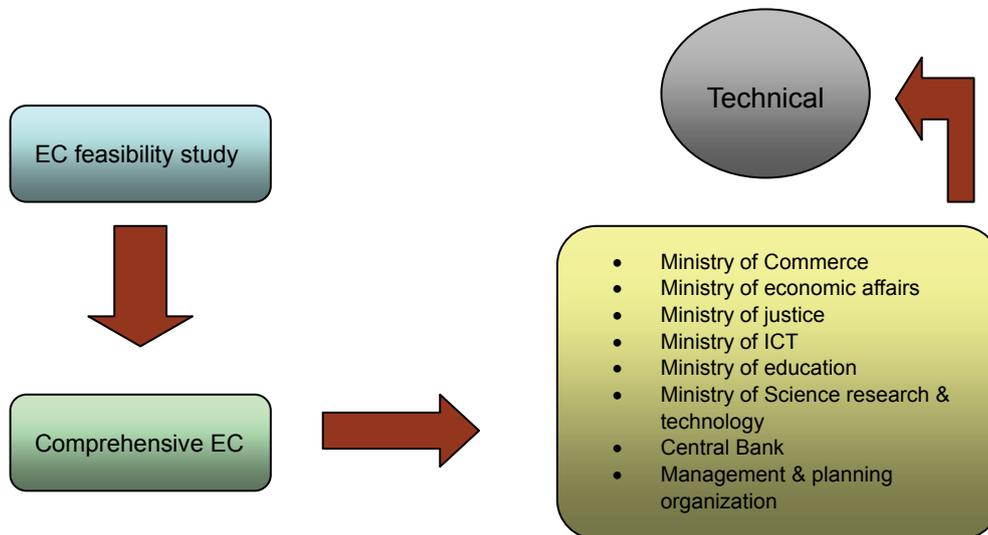
The Iranian Council of Ministers in 2002 approved the Electronic Commerce Policy of the government of the Islamic Republic of Iran with the following purposes:

- To ensure the use of the Internet for electronic commerce activities in the Country in a safe and secure network environment.
- To remove any discriminatory barriers in the use of the electronic Commerce in the country
- To protect the enhancement and promotion of the respective NGO activities in the Country on a competitive basis.
- To enhance awareness and training and to create the cultural environment for the use of the electronic business.
- To provide and maintain the main infrastructures and the necessary legal and operational backgrounds and prerequisites for the implementation of electronic business in the country.

The Iranian Parliament in 2003 approved the Iranian Electronic Commerce Law of the Islamic Republic of Iran. The Iranian council of Ministers in 2005 approved the Comprehensive Electronic Commerce Development of the Islamic Republic of Iran.

1.2 Comprehensive EC Development Plan

Comprehensive EC Development Plan was derived from the results of the ecommerce feasibility study. The comprehensive EC Development plan designates duties in public awareness, training & education, security, standardization, e-payment, legislation & technical infrastructure areas to executive ministries & key public organizations such as Ministry of Commerce, Ministry of economic affairs, Ministry of ICT, Central Bank, Management & planning organization. General view of the comprehensive e-Commerce development plan in Iran is as bellow.



Comprehensive EC Development Plan 2005-2006

1.3 Annual profiles of Comprehensive EC Development Plan for 2007-2014

The annual profile of the new version of EC development plan from year 2007 to 2014 is described below:

- 2007: in this year e-Commerce national report from actions undertaken by public agents to develop & promote e-Commerce was prepared with the cooperation of all public sectors. It was planned to add the private sector actions to the report after completion of measurement.
- 2008-2009: National e-Commerce report will be prepared with cooperation of all public agents & the main policies formulated for the private sector.
- 2010-2014: the report will be prepared with the public private participation.

1.4 Awareness & Education

To develop awareness, training and education a Project has been carried out by the

Ministry of Commerce in 2006 – 2007, as a result of which Comprehensive training and awareness packages are produced. The content of the packages covers economic aspects, legal issues, technology tools, EC standards, EC applications & Implementation process. The audiences are Micro enterprises & retailers, Managers of SMEs, Ecommerce service providers, Public managers, Mass media (for general training) & lawyers. The training & awareness package for ecommerce was developed in 5 steps. Brief information about each step is described below:

- First step: The learners (training audiences) & their characteristics were identified.
- Second step: The audience roles in the e-commerce process were determined.
- Third step: training needs of learners based on their roles in the ecommerce was identified
- Fourth step: training courses were designed based on training assessments
- Fifth step: in this step designing of the course materials & packages based on training standards was completed

1.5 Statistical Report

This section of the report includes some statistics such as point of sale statistics, Automated Teller Machine statistics, e-readiness penetration rate & e-Commerce Penetration volumes.

Point of Sale (POS)		Automated Teller Machine Statistics	
Year	Number	Year	Number
2006	192,756	2006	7468
2007	365,281	2007	9592
2008	472,983	2008	10113



E-readiness penetration rate							
index	2002	2003	2004	2005	2006	2007	2008
Mobile phone	2,186,958	3,376,526	43,000	7,222,538	13,659,100	24,509,714	27,696,722
Mobile phone penetration	3.3	5.1	6.3	10.4	19.2	34.2	38.1
Internet users	3,168,000	4,800,000	5,500,000	700,000	18,000,000	18,131,455	19,801,796
Internet users penetration	4.8	7.2	8.1	10.1	25.3	25.3	27.5
Broadband subscribes	16,171	17,700	19,200	20,800	465,100		
Broadband subscribes penetration	0	0	0	0	0.7		

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Ecommerce Standards

According to Iran e-Commerce development plan the EC standards must be implemented for creating a common language between businesses. eC Standards Implementation project has been defined. This project was defined at three categories of international standards, business web site & electronic mail standards and applying ecommerce standards. The EC standards implementation project was completed in five phases. Brief information regarding each phase has been explained below:

Phase 1 (initiation): in this phase other countries experiences & case studies on ecommerce standards were studied & the current statues of the implementation of ecommerce standards in Iran compared to other countries were examined.

Phase 2 (studying & classification of the standards): in this phase the commerce standards were gathered, the needs of audiences depending on the type & level of standards were defined and the sources for the preparation of the training materials for ecommerce standards were extracted.

Phase 3 (ecommerce standards): in this phase the general framework for ecommerce standards were defined, the position of each standards in the framework of ecommerce standards were defined & ecommerce consistency & integration was evaluated.

Phase 4 (development a mechanism for ecommerce standards implementation): in this phase the required infrastructure for ecommerce standards implementation was identified & a roadmap for ecommerce standards implementation was designed.

Phase 5: in this final phase the pilot electronic EDIFACT message for usage by the selected Iranian companies was developed.

2.2 Experiences of EDI Gateway and Global Infrastructure

In this section of the report the main e-trade facilitating systems which has been installed & used in shipping lines, maritime, and the Customs has been explained briefly. These systems are EDI Gateway in the shipping lines, Port community system in port and maritime organization and the ASYCUDA++ in the customs.



2.3 Establishment of EDI Gateway in the Shipping lines (IRISL)

Establishment of EDI gateway enabled shipping lines to receive electronic data in terms of UN electronic data interchange (EDI) (messages in CODECO and COARRI format) as well as IRISL electronic data interchange standards. The established gateway facilitates data uploading and modification concerned with container movement affairs. With the help of the EDI establishment in gateways in the shipping lines, IRISL agents will be able to login to the system all over the world & send all the information about container movement such as mentioned in the list below via COARRI and CODECO messages.

- Load on Board
- Discharging
- On Hire
- Off Hire
- Return to shipper
- Return by shipper
- Deliver to Consignee
- Receive by Consignee
- Load on Train/Truck/Trailer
- Discharge from Train/Truck/Trailer
- Empty Gate in, Empty Gate Out

In the next step, Structure and content of all received information, will be verified and the agents will be aware of any probable deficiency or syntax error. This system facilitates the ability for reporting and content modification for agents so that after sender submission, all information can be used by IRISL commercial subsystems.

2.4 Customs Automated System

The Iranian Customs Administration (IRICA), a major service provider to the trade sector that also has an important role in the trade chain, has taken many steps toward simplification and streamlining of the customs clearance procedures. This has among other things been achieved by the use of the United Nations Conference on Trade and Development's (UNCTAD) customs software program, ASYCUDA – developed in order to ease customs procedures and to require only a small number of trained maintenance staff. The earlier version of the ASYCUDA system has been put in place in almost all customs offices throughout the country. ASYCUDA WORLD is the latest version of ASYCUDA, and is web-based.

This version of ASYCUDA project will be implemented through two phases: Phase 1 will prototype and pilot the system at Customs Headquarters and at a designated pilot site. Phase 2 will roll out the system to all customs offices and fiscal points. A major part of the project will be the transfer of technology that UNCTAD will undertake through technical and functional training, with the purpose of ensuring IRICA has the ownership of the system and to create self sufficiency and independence from external technical assistance in the future.

2.5 Ports and Maritime Organization:

by the time being all the required information in the port & maritime organization is managed through GCOMS, TCTS & Port Business Intelligence systems but the this organization has planned to install the port community system(PCS) to facilitate the trade in shipping lines & also to move align with the UNCTAD's recommendation.

One aspect of going to establish electronic single window in country is integration of activities at customs, port and maritime organization, and shipping line company.

2.6 National Products and services Classification and Coding System (IranCode)

Lack of having a set of products and services identification standards which is accepted and applied by all firms across the nation to support logistics processes,

The costly process of designing local systems in companies & weak connections in and between supply chain partners stimulated the need for defining a project called "national products & services classification & coding system" as IranCode. National products and Services Classification and Coding System provides Iranian firms with a common language to establish better connections with the business partners, having better sourcing opportunities & improve inventory management in their own organizations. This system was developed align with the recommendation No. 30 of the UN/CEFACT. It has the capability to adapt with major and prevalent International product Classifications and meanwhile to have maintained and preserved its integration with them such as:

- UNSPSC
- HS
- NATO
- CPC
- ISIC
- GPC



This system has the ability to assist in facilitating the global e-trade. Since the system has been made operational one year ago, lots of large, medium and small companies have been enabled to proceed in the commercial competitive arena by benefiting the capabilities of the system in inventory management, locating new target markets, and thus better satisfying the customers needs. The results of this project will also be used at current Barcode systems and future RFID applications.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

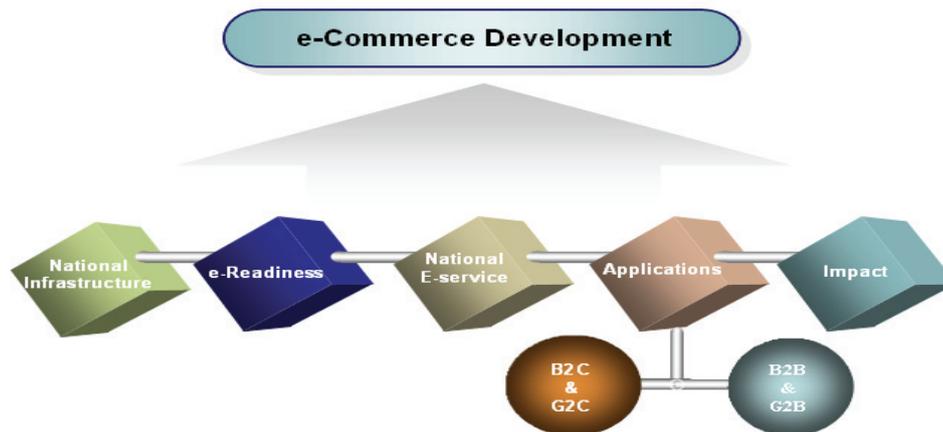
3.1 Establishment of the Certification Authority (CA)

This project was intended to produce, distribute and manage the certification authority in e-transactions. The main goal of this project was to provide security through providing certification authority, the culture penetration trade formalities that is a part of operation of design and implementation of software, production and distribution. Management of certification authority is based on international interactions. Private and public sectors at country planned projects to promote applications of CA services.

SECTION IV – Other advanced applications - IT - enabled Service (ITeS)

4.1 Plans, Activities & Ways to Future

At the time the new e-Commerce development plan has been designed. As it has shown in picture the new plan covers national infrastructure, e-readiness, national e-services, national single window, applications & impact areas. A brief explanation about issues covered by each category is explained briefly below.



- National Infrastructure: this area covers Technical infrastructure, Rules and Regulations, Training and Awareness, Security and Trust, Standards, & Research & Development.
- E-readiness: e-readiness in the new plan covers issues related to e-strategy, network, bandwidth, remote access & ICT/EC Experts.
- National e-services: services covered under this category are e-customs, e-Banking, Commercial Electronic Documents, Transportation, International Collaboration and Legal Electronic Service.
- B2C & G2C: This category covers e-Mall, e-CRM, M-Commerce & e-services.
- B2B & G2B: This category covers e-Marketplace, e-PRM, e-SCM, Internet Marketing & Promotion, e-procurement and e-Tendering.
- Impact: It covers measurement, Impact & evaluation issues.



JAPAN Progress Report



UN/CEFACT Japan Committee (JEC)

2008 Members Progress Report : JAPAN

SECTION I – Governmental ICT Strategy of Japan in 2008

1.1 From “e-Japan Strategy” to the Priority Policy Program – 2008

e-Japan Strategy

Since 2002, when the Government of Japan had decided and propagated “e-Japan Strategy” in order to become “the world’s most advanced IT nation,” followed by the revised one “e-Japan Strategy II,” which were implemented under the leadership of the IT Strategic Headquarters.

As a result, Japan attained the highest global standards, as demonstrated in our nation’s improved broadband infrastructure and its widened use, by the greater utilization of state-of-the-art cellular phones, and by the improved electronic commerce environment and its dramatic increase in transaction size. Dramatic progress at both the infrastructure and consumer levels resulted in the world’s highest standards in its market and technological environment. Japan is now transitioning from taking a following position to such foremost countries as the United States, which pioneered the IT revolution, to becoming a front-runner in leading the world to create an IT society for the next generation.

New IT Reform Strategy

Under the New IT Reform Strategy set out by the IT Strategic Headquarters within the Cabinet, in January 2006, focus was put on the ability of IT to reform the social structure. Not only will this characteristic of IT be used to benefit national life from a user-standpoint and improve industrial competitiveness, but also to reform the major societal challenges Japan faces, and to disseminate the achieved results to the world.

Ideally, our nation should primarily aim to achieve a ubiquitous network society, whereby “anybody, can use IT anywhere, at anytime,” while taking care to assure security and protect privacy. And secondly, by this means, continue to be the most advanced IT nation with the world’s highest-level of infrastructure, potential applicability and technological environment.



Priority Policy Program 2006

The Government also had set out “Priority Policy Program 2006” in July 2006 to explicitly identify the policy package to make all the Government to carry out the program with PDCA cycle continuing to assess achievements and speeding up the measures stated in this program, the Japanese Government aim to create a society where “anybody, anywhere, at anytime” can experience the benefits of IT.

Priority Policy Program 2007

Succeeding to the Priority Policy Program 2006, the IT Strategic Headquarters in the Cabinet has been developing “the Priority Policy Program 2007.

The revised one is constructed by the following policy packages:

- Policies to enhance productivity and efficiency both in the Government and the private sectors.
- Those to realize the safe and reliable society
- Those to develop a platform for innovation
- Those to attempt structural reforms by means of ICT
- Those to promote structural reform to enhance business competitiveness through establishment of management by utilizing ICT
- Enhancement of the presence of Japan in the international competitive society by the provision of valued Information to the world.

1.2 The ICT Policy Roadmap 2008

On 25th January 2008, the Fukuda Administration which was established in September 2007, set out the Governmental Strategy captioned “Direction and Strategy for the Japanese Economy” propagating the Growth Strategies based on “Networking Ability and Environmental Prowess,” in which showing the three goals as follows:

- Goal 1: An open country which develops together with the rest of the world
- Goal 2: A country where people can live without anxiety into their 90s
- Goal 3: A country that sustains economic growth even with a declining population

In accordance with the said Strategy, the IT Strategic Headquarters in the Cabinet has set out “ICT Policy Roadmap” in June 2008 (herein-after called “the Roadmap”) , in order to reinforce the realization of the goals of both in “New ICT Reform Strategy” and the above mentioned Governmental Strategy.

The Roadmap showed prioritized item of National projects in three categories:

- To realize so-called “one-stop service” by e-Government both in central and local, especially in health care and social security sectors, which should be user-orientated.
- To be safe and reliable society harmonized with the Environment
- To realize the economic development by Networking Ability opened to the World

1.3 The Priority Program 2008 (Final Draft)

In June 2008, The IT Strategic Headquarters in the Cabinet has released the final draft of the Priority Program 2008 (here-in-after called “the Program”), which was compiled as an annual plan for the fiscal year of 2008, to carry out the policy programs shown in the Roadmap.

Among the the policy packages, most of which are succeeded from the Priority Program 2007, the Government initiated the following new projects:

1.3.1 Cyber Specific District

To develop a virtual community to invite concerned industries for which a special privileges to enable participants to carry out innovative trial of services over Internet.

1.3.2 e-Space

To incubate high-value added e-commerce space, pilot projects to deploy innovative ICT over the Nation.

1.3.3 The Digital Cultural Enlightenment

To serve the Nation digitized information services to disclose any and all the intellectual properties kept in public, such as in the National Diet Library, the National Archives of Japan, all the Governmental Offices both in central and local, major libraries, National Museums, and universities.



1.3.4 Digital Fusion to incubate innovative industries

To initiate pilot projects to constitute a new ICT frontier, which can be a platform for new innovative industries.

SECTION II – UN/CEFACT STANDARDS DEVELOPMENT

2.1 Single Window System of Japan

2.1.1 The current Single Window System

The Single Window System in Japan is constituted with the following two groups of online systems (See Diagram 1 attached herewith):

- Nippon Automated Cargo Clearance Systems (NACCS) and related systems connected via IFS (Import/Export Procedures Interface System)
 - FAINS (Sanitary Inspection)
 - JETRAS (Import/Export Control)
 - ANIPAS (Animal Quarantine)
 - PQ-Networks (Plant Quarantine)
 - Immigration Procedure System
- Port & Harbor EDI for Japan Coast Guard and the Port Authorities

2.1.2 Nippon Automated Cargo Clearance Systems (NACCS)

(1) NACCS

Japan has two automated customs clearance systems named "the Nippon Automated Cargo Clearance Systems for sea-cargo (Sea-NACCS) and for air-cargo (Air-NACCS)". These systems are operated by NACCS Center.

NACCS promptly and accurately handle customs procedures, legal procedures related to non-customs systems (e.g. food, plant quarantine, animal quarantine, trade control, port EDI) and other tasks related to international cargo and shipment handling.

NACCS is an on-line network system, composed of a computer system used in communicating with the center, and a terminal system located in each of the customhouses, customhouse brokers and other related industries connected with telecommunications lines. NACCS structure data exchange with inter-corporate systems on the EDI method. Now NACCS process approximately 95 % of all import and export customs declarations.

(2) Sea-NACCS

Sea-NACCS process customs procedures and private companies related services for import and export cargoes by sea. For imported cargoes, the on-line process begins with the arrival of a vessel in a port and continues through the unloading of sea cargoes from a vessel, import declaration and the approval of import. For exported cargoes, the on-line process is applied to a series of customs procedures and private companies related services including the delivery of sea cargoes to the Customs area(e.g. Customs warehouse), export declaration, the approval of export, the loading of cargoes to a vessel and departure from a port.

Sea-NACCS adopted UN/EDIFACT in submitting arrival report and list of loaded cargo, application for departure, etc. UN/EDIFACT Messages used in Sea-NACCS are as follows:

- CUSRES (Customs response message)
- CUSREP (Customs conveyance report message)
- CUSCAR (Customs cargo report message)
- PAXLST (Passenger list message)
- CODECO (Container gate-in/gate-out report message)
- COPARN (Container announcement message)
- IFTMIN (Instruction message)
- APERAK (Application error and acknowledgement message)
- CONTRL (Syntax and service report message)

In addition, WCO customs data model was introduced into Sea-NACCS about export declaration (EX1) in December, 2005.

(3) Air-NACCS

Air-NACCS process customs procedures and private companies related services for import and export cargoes by air.

For imported cargoes, the on-line process begins with the arrival of an aircraft in an airport and continues through the unloading of air cargoes from an aircraft, import



declaration and the approval of import. For exported cargoes, the on-line process is applied to a series of customs procedures and private companies related services including the delivery of air cargoes to the Customs area (e.g. Customs warehouse), export declaration, the approval of export, the loading of cargoes to an aircraft and departure from an airport.

2.1.3 Port & Harbor EDI

The "Port & Harbor EDI System" (Port EDI System in short) has been in service since 12th October 1999. WAVE (Waterfront Vitalization & Environment Research Center - non-profitable organization) has been assigned to develop, operate and manage this system by Harbor Bureau of Ministry of Land, Infrastructure and Transport, Japan. The parties concerned of this EDI system are Port Authorities, Harbor Masters and Shipping Lines or their agents.

Since the launch on 12th Oct. 1999, the numbers of participants in the Port EDI System is increasing. As of end of June 2005, 113 Port Authorities, 99 Harbor Masters, 109 Guard and rescue offices, 83 Quarantine offices, and 1109 shipping lines, their agents or private berths are members of this system.

Shipping lines/agents have two options to transmit data required electronically, by UN/EDIFACT messages or through the web-screen (Web-EDI).

In the 1st stage, two UN/EDIFACT messages, BERMAN (Berth management message - UNSM in D00A) and APERAK have been implemented. Adding these two messages, an application of "dangerous (hazardous) goods handling operations (IFTDGN)" has been implemented in October 2000, thence expand to other major ports within this year. In order to implement IFTDGN, we cooperated with PROTECT Group (a users group to develop a harmonized user guidelines in Europe, and their latest version of user guidelines was endorsed as an international standard by IMO) to develop the harmonized message implementation guideline (MIG). Furthermore, we are modifying/changing BERMAN to cover more functions of pilot/tugboat service requirements in cooperation with TBG3 (Transport Sub-working Group under TBG).

Adding IFTDGN, two applications "vessel's long term schedule and previous called port information (IFTSAL)" and "Passengers' and crews' information (PAXLST)" also have been implemented in October 2000.

With regard to the reducing redundant input data item issue, we are collaborating with the customs authority, the immigration authority and the quarantine authority to provide an electronic data input environment for users (shipping lines/agents), so-called "Single Window (SW)" methodology. This is in service in July 23rd 2003, and once users transmitted

Port-in/out related declaration or application data to the portal system, the data is automatically transferred to the related authorities. In Japanese SW, both the Port EDI system and the Sea-NACCS system play a part of portal system. The Port EDI system provides three input methods which are a web screen input, an application program on user PC and UN/EDIFACT messages, for the SW portal system.

Lastly WAVE has been dispatching their representative to various international meetings, such as TBG3/ITIGG (an official subgroup of TBG3 to develop harmonized MIG's) and other global users' group (SMDG) so as to develop and implement harmonized MIGs to be used in our system.

In 2007, the Government had decided to let NACCS merger the Port EDI, under the Next Generation Single Window System of Japan. Consequently, the next version Sea-NACCS is going to succeed all the services of Port EDI, but some EDIFACT messages which have not been requested by the users.

2.1.4 The Next Generation Single Window System

Under the Priority Policy Program 2006, the Government had decided to implement the Government Common Portal, which will serve nation one-stop services for all the online system of each Ministries. As to International trade affairs, the following online systems will be redeveloped by 2010(See Diagram 2 attached herewith):

Next Version Sea-NACCS	October 2008
Next Version Air-NACCS	October 2009
Next Version Port & Harbor EDI	October 2008
Next Version FAINS (Sanitary Inspection)	January 2010
Next Version JETRAS (Import/Export Control)	October 2008
Next Version ANIPAS (Animal Quarantine)	April 2009
Next Version PQ-Networks (Plant Quarantine)	April 2009
Next Version Immigration Procedure System	October 2008



2.2 Other EDI Activities

2.2.1 Japan Electronics and Information Technology Industries Association (JEITA)

JEITA is a new industry organization established in November 2000 by merging the Japan Electronic Industry Development Association (JEIDA) and Electronic Industries Association of Japan (EIAJ) to enter the 21st century. Its activities cover both the electronics and information technology (IT) fields. Within the JEITA, the EDI Center plays the role of promoting standardization which has been executing activities together with the vendors and buyers, focusing on the EIAJ-EDI Standards in order to exchange business transactions.

JEITA uses EIAJ-EDI Standard based on CII syntax rules, a domestic business protocol standard, developed by the Center for the Informatization of the Japan Information Processing Development Center. The EIAJ-EDI Standard was established for promoting electronic ordering of materials in the electronic manufacturing industry, and has been revised as appropriate every two to three years. The latest version was issued in December 2001.

In December 2003, JEITA released “ECALGA (Electronic Commerce Alliance for Global Business Activities)” as EDI brand for the new era. “ECALGA” is intended to widely offer the solutions to the changing needs of new EDI in the Electronic industry, through newly developed messages which are to reflect the real time exchange of a forecast and stock information. At the same time, “ECALGA” changes EIAJ-EDI Standard to the ebXML base. “ECALGA” seamlessly combines all the business processes among the enterprises in the various fields including, but not limited to, the business segment of planning, designing, development, production, distribution and sales.

2.2.2 The Distribution Systems Research Institute (DSRI)

DSRI, a member of GS1, facilitates EANCOM (UN/EDIFACT subset) as the industry EDI standards for Japanese retail and distribution industry since 1997. Since 2000, DSRI has been developing XML/EDI Distribution Standard messages for the grocery industry. In 2004, message development and preparation of Reliable Messaging Protocol guideline have been carried out as follows:

- 1) Development by XML schema of returns message.
(12 messages were developed by 2000 – fiscal year 2004)
- 2) Review and classification of necessary data items, based on data items for JEDICOS.
- 3) Preparation of XML tags in Japanese and English languages, taking into consideration international standard specifications.

2.2.3 Financial Sector

Since March 1996, a function for financial EDI has been available in Zengin System, an electronic payment system mainly used for domestic credit transfer. Payer firms can attach a twenty-digit matching key, with which beneficiary firms can reconcile commercial and payment date, to payment instructions sent through Zengin System.

This function has been succeeded to its fifth-generation system, which start operation in November 2003. In parallel with the development of the new system, a working group of Japanese Bankers Association examined the possibility to introduce a scheme for financial EDI using XML. However, it has decided not to introduce such a scheme for the time being as there are legal and technical issues to be addressed.

MT103 Remit, which is a new message type of SWIFT's FIN for customer payment and has the financial EDI capability, is widely used in Japanese banks. By using MT103 Remit, payers can attach EDI data of up to 9,000 digits and of any type of formats including EDIFACT to a payment instruction. However, Japanese banks use SWIFT messages mainly in cross-border transactions, partly because the protocol and formats for most Japanese payment systems are incompatible with those for SWIFT.

Turning to C2F area, electronic methods to transfer money between individuals' bank accounts are widely used in Japan. According to a survey conducted in March 2005, funds transfer services are provided through the Internet by 79.2 percent of the 456 respondent banks. In addition, services using mobile terminals (e.g., mobile phones) are provided by 80.3 percent of the respondents.

2.2.4 Travel, Tourism and Leisure (TT&L)

The initial EDI activity in the travel related industry in Japan started in 1992 soon after the establishment of TT&L work group in UN/EDIFACT. In order to internationally sell Japanese travel products, more than 30 travel related companies and associations have kept working in the name of EC Promotion Organization for Travel Industry to normalize the travel business processes and data by using XML/EDI based on the standards and specifications of UN/CEFACT Forum and OTA (Open Travel Alliance). The first working results on the Japanese original hotels (Ryokan) undertaken by the Organization were submitted to the Forum last year to be facilitated in the Small Scaled Lodging House Information Project and are now in its harmonization process. The second submission will be ready to the Forum during this year.

The TT&L EDI meeting with Taiwan TT&L industry has been held yearly either in Taipei or in Tokyo and in Dec, 2005 this was held in Taipei with the industry members of the two countries. The visit Japan campaign in Japan has been undergone to promote Japan to the



foreigners and the EDI standard activity is also activated these days.

2.3 Education and Awareness Programs

2.3.1 JEDIC (Japan Electronic Data Interchange Council)

JEDIC has conducted the survey on the EDI status for 59 industry associations in Japan. The result says that 59.4% of the companies are doing EDI in the procurement process and 53.9% of the companies are doing EDI in the area of marketing.

JEDIC publishes the EDI news letters and holds the EDI seminars regularly. Also JEDIC started the new promotion program for ebXML including the hands-on trainings.

2.3.2 ECOM (The Next Generation Electronic Commerce Promotion Council of Japan)

ECOM organized the research and the promotion for Electronic Commerce and RFID in Japan. The research report includes How to promote RFID in the various industries, How to build up the information models for the product lifecycle management based on the UN/CEFACT Modeling Methodology, and How to establish the Registry and Repository for ebXML.

2.3.3 JASTPRO (Japan Association for Simplification International Trade Practices)

JASTPRO holds “EDI seminar” every year. The contents of the programs include;

- 1) Current status of Trade Facilitation and EDI
- 2) Characteristics of Japanese EDI in trade area
- 3) Port EDI system under single-window service
- 4) Japanese trade EDI activities with Asian counterparts

2.4 Status of ebXML Development

For implementing the e-Business Collaboration based on ebXML, the Model Sharing among the related business entities is the key. The Next Generation Electronic Commerce Promotion Council of Japan (ECOM, Chairman: Takuya Goto, Chairman of the Board, Kao

Corporation) is performing activities which contribute to decision of the technical standard about a "core component" and the "modeling methodology" of ebXML. Furthermore, the activity for spreading use of ebXML technology through the actual business of Japan and Asian countries is also carried out.

In order to promote ebXML among the Small and Medium sized Enterprises, ECOM developed and submitted the new specification of ebXML Messaging Service which can provide the Solution for Client-Server System to OASIS.

2.5 Working Groups and Committees

2.5.1 JEC

Japan EDIFACT Committee (JEC) was established in July 1990 as a supporting organization for UN/ECE/WP.4 (currently UN/CEFACT) and Asia EDIFACT Board (currently AFACT). JEC is composed of committee members representing various field of industry, which includes trade, finance and manufacturing. JEC sends delegates to AFACT meeting every year.

At the Plenary of JEC held 25th June 2007, it was renamed to UN/CEFACT Japan Committee (Abbreviation is same as now i.e. "JEC")

2.5.2 Joint Committee of Technical Assessment and Promotion of Codes in UN/CEFACT Recommendations

At the Plenary of JEC held 25th June 2007, it was resolved that TAG (Technical Assessment Group) and Japan Committee for UN/LOCODE shall be united and jointly operated the following two sub-groups:

2.5.2.1 TAG (Technical Assessment Sub-Group)

With regard to the development of UN/EDIFACT standard messages, TAG has been playing a key roll in technical support by making technical assessment of DMR(Data Maintenance Request) from UN/EDIFACT users in Japan. TAG members have reviewed the translated MDR (Message Design Rule Rev.5 & Rev.6), main points of EDIFACT Syntax Rules Ver. 4, as well as Ver.1.2 of MACH (Message and Code Handbook) and they had 11 meetings in 2006 fiscal year.



2.5.2.2 UN/CEFACT Code Promotion Sub-Group

UN/LOCODE has been in use in Sea-NACCS and Port EDI system since 1999. For the purpose of successfully introduce these systems, the ex UN/LOCODE Japan committee was established in 1997. Currently the number of the registered UN/LOCODEs for Japan counts 1,616 in comparison with 400 at the beginning. The roll of the committee is to maintain the codes and make a request for new codes in Japan. In the future, it is intended to enhance the roll of the committee to encompass UN codes other than locations.

The new sub-group's mission is to promote any and all the code systems compiled and published as UN/CEFACT Recommendations, such as, but not limited to #3, #9, #20, #21, #22 etc.

2.5.3 Special Committees of JASTPRO

(1) Special Research Committee on Reinforced Security Environment after 9.11

In the aftermath of the September 11 terrorist attacks in the United States, demand for the measures to assure tighter security is rapidly increased. Under such circumstances, to satisfy the needs of the international trade environment in terms of efficiency and security becomes universal concern among the parties involved. Since Japan fully rely on trade activities with other part of the world, it is an ultimate issue for Japanese trade community to find the solution to obtain adequate security without interfering efficiency in trade.

In the work program of this committee for this year, primal focus is placed on the research of security measures by US CBP, so called "10+2," and "SFI (Secure Freight Initiative)" to plan 100% screening of sea-going containers destined to USA. Analysis and evaluation is given to the effect of such measures onto the efficient trade flow. Security measures initiated in the private sector is also studied.

By gathering and sorting out all these available information, some directive condition for effective implementation of security measures in the trade procedure will be sought.

(2) Trade Procedures for XML/EDI Implementation Research Committee

XML/EDI using internet is the hottest theme in EDI business. XML/EDI is regarded the next-generation EDI that resolves the problems in legacy EDI and Web-based (Internet) EDI. JASTPRO launched this committee in order to study possibility of introducing XML/EDI concept into trade procedures. This approach is important to re-use resource of UN/EDIFACT and to keep inter-operability between UN/EDIFACT and XML/EDI. The committee continues to extend their efforts to simplify tag name for data element in UN/EDIFACT and explores the area of trade procedures based on object-oriented model.

KOREA Progress Report



Korea Institute for Electronic Commerce



2008 Members Progress Report : KOREA

SECTION I – GENERAL CONDITION UPDATE

In Korea, the effort to promote e-Business implementation has continued by both public and private sectors to accelerate the digitalization of traditional Korean industries. A recent focus of Korean effort is on the maximum utilization of IT and e-Business for its application to industrial and sectoral domains to improve their competitiveness and to create new and innovative industries. The year 2007 marked an increase of e-commerce ratio to total trade to 25.4% in 2007 from 21.2% in 2006.

1.1 User Status

1.1.1 Internet Users

As of December 2007, the number of Internet users totaled 34.82 million, which is 76.3% of population aged over 6. Compared to the number in December 2006, there is an increase of 700 thousand internet users. Analysis by Gender, 80.8% of males and 70.3% of females use the Internet. Analysis by age, more than 95% of the 30s and younger are Internet users and there is a fast growth of the Internet users in 40s and 50s.

□ **Table 1 : Internet Usage Rate in Korea by Age in 2007**

Age	3-9	10-19	20s	30s	40s	50s	60s
Usage Ratio (%)	79.5	99.8	99.3	96.5	79.2	46.5	17.6

Source : National Internet Development Agency of Korea, Feb. 2008

1.1.2 Broadband Penetration

As of December 2007, 79.8% of Korean households can access (wired) Internet at home. 82.9% of Korean households access Internet by using xDSL, 21.4% by Cable modem, and 14.3% by Apartment LAN.

1.2 e-Commerce Market Status

1.2.1 e-Commerce Trade Volume

The trade volume of e-Commerce market in Korea grows every year as shown in Table 2. The total e-Commerce trade volume in 2007 was 516,514 million US Dollars,

□ Table 2 : e-Commerce Trade Volume in 2007 (Unit: Billion USD, 1USD≈1,000Won)

Year	Total	B2B	B2G	B2C	Other
2005	358.45	319.20	29.04	7.92	2.29
2006	413.58	366.19	34.44	9.13	3.83
2007	516.51	464.46	36.80	10.22	5.03

Source : Korea National Statistical Office, Mar. 2008

1.2.2. Cyber Shopping Malls

As of December 2007, there are 4,508 cyber shopping malls in Korea. Out of 4,508 cyber shopping malls, 4,302 are specialized retailers and 206 are general retailers. Trading volume of cyber shopping mall accounted to 15 billion US Dollars in 2007.

□ Table 3 : Sales of Cyber Shopping Malls (Unit: Billion USD, 1USD≈1,000Won)

Total	Commodity type		Operation type	
	General	Specialized	Online	On/Off-line
15.76	11.12	4.64	10.00	5.76

Source : Korea National Statistical Office, Feb. 2008



1.2.3 G2B Market

The total trade volume of G2B e-Commerce is 36,801 million US Dollars as of December 2007, showing gradual annual growth pattern. Out of total G2B trade volume, 53.2% was made through purchase of goods & services and 46.8 was through public work contract.

□ Table 4 : G2B Market Size in 2007 (Unit: Million USD, 1USD≈1,000Won)

Year	Total	Purchase of Goods & Services	Public Work Contract
2005	29,036	13,064	15,972
2006	34,435	19,385	15,972
2007	36,801(100)	19,585(53.2)	17,216(46.8)

Source : Korea National Statistical Office, Mar. 2008

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Implementation of UN/EDIFACT/XML based Standard

In Korea, KEC (Korea E-Document Standard Committee), a legal committee under the Korean government, manages all the electronic documents standardization. KEC standard is a Korean national standard which ratifies and customizes UN/CEFACT specifications. As of 2008, 614 types of electronic documents have been registered as KEC standard with circulation of about 300 million documents for a year.

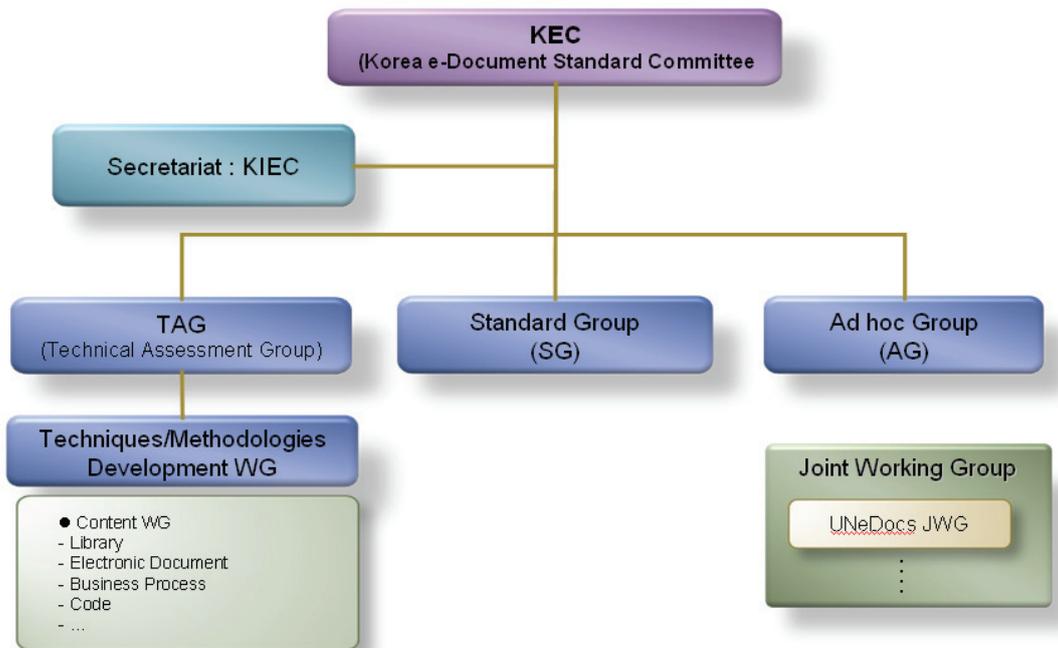
KEC examines, approves, revise and abolish Korean standard on e-document and collects the opinions from industries and recommends policies to the government. KEC consists of 20 members from government and private sectors and has three sub-committees: Technical Assessment Group (TAG), Standard Group (SG) and Ad hoc Group (AG).

□ Table 5 : Korea Standard Electronic Documents in Aug. 2008

	EDI	XML/EDI	XML	Library	KECT	KECR	Sub-total
Trade	37	27	25	0	0	0	89
Insurance	4	4	8	0	0	0	16
Sea Transport	38	0	3	0	0	0	41
Land Transport	6	0	6	0	0	0	12
Finance	31	0	57	0	0	0	88
Healthcare	11	0	0	0	0	0	11
Customs	39	0	66	0	0	0	105
Distribution	19	0	0	0	0	0	19
Iron & Steel	11	0	5	0	0	0	16
Procurement	0	0	65	0	0	0	65
Electronic	20	0	0	0	0	0	20
Automobiles	22	0	0	0	0	0	22
Ship-building	21	0	0	0	0	0	21
Textile	0	22	0	0	0	0	22
Electricity	0	0	46	0	0	0	46
Common	3	0	2	1	2	1	9
Stationary	0	0	12	0	0	0	12
Total	262	53	295	1	2	1	614



< Figure 1 : KEC Structure >



2.2 Implementation of ebXML Standard

To develop and promote ebXML Standard in Korea, KIEC puts effort on both international and domestic activities. KIEC maintains a focal point of UN/CEFACT in Korea and a membership in OASIS. KIEC contributes to international ebXML standardization by participating in UN/CEFACT Plenary and Forum meetings as well as OASIS TC meetings. Korea B2B/A2A Interoperability Testbed (KorBIT) has been adopted as schema validation tool in the 12th UN/CEFACT in April 2008. For domestic promotion of e-Business, KIEC holds an international interoperability seminar every year. In 2008, it will be held in October aligned with AFACT EDICOM conference.

Since REMKO, Korea ebXML Central Registry & Repository, was developed in 2001 to facilitate ebXML based electronic transaction and to enhance e-business interoperability in Korea, REMKO has managed all standard electronic documents including EDI, XML/EDI, XML, and ebXML contents such as CPP, CPA, ACC, ABIE. Currently there are 2,771 electronic documents in REMKO. REMKO also provides ebXML contents search system and is linked with other industrial information services for information searching. REMKO is continuously enhanced for improved user-friendliness and functionality.

Since introducing a certification service for standardized electronic TAX invoice in May 2005, KIEC certified 62 electronic Tax invoice system from 53 companies and organizations until August 2008. The certified systems are endowed with e-Business interoperability mark. Since 2007, KIEC has been supporting for the promotion of legislation on use of standardized electronic Tax invoice.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

3.1 e-Government

3.1.1 e-Government

Korea government started informatization of government since 1987, establishing National Basic Information System, which digitize administrative data such as resident, vehicle and land registers. Projects on Informatization of Government Agencies were promoted from 1997 to 2000.

After e-Government Act was enacted in 2001, Korean government aggressively pursued the development of world's best e-Government in Korea. 11 key Initiatives including G4C, e-Procurement, Home Tax Service were implemented in 2001 and 2002. In 2003, Korean government established e-Government Roadmap composed of four areas of innovation, 10 agendas and 31 projects for the period of 2003-2007. Advancement of e-Government services were promoted in 2007. With this effort, Korea has ranked sixth in the UN e-Readiness Index in 2007.

3.1.2 G4B System

G4B is a government one-stop service hub portal for businesses which provides integrated information needed for entire process of business from foundation to cessation of company. G4B was selected as one of 'Enhancing Citizen Service' projects of Korean e-Government Roadmap in 2003. Phase 1~2 projects were completed and serviced in 2004~2007, and Phase 3 project was completed in January 2008 and now in service.

G4B provides 4 main services; corporate civil administration service with guidance of



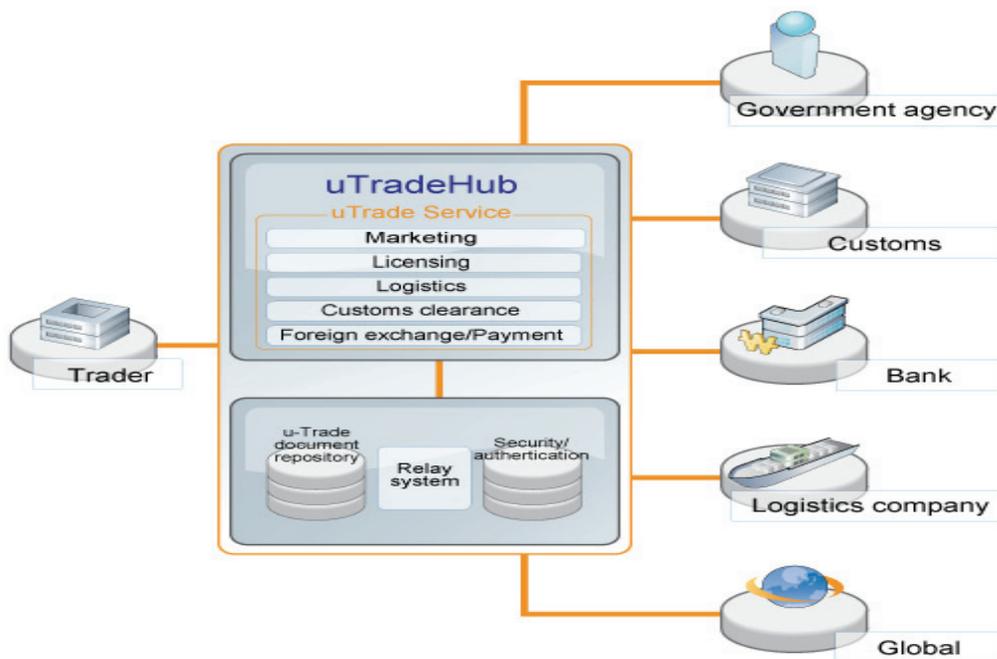
details for 1,887 types of civil appeals for businesses, latest industrial information service with contents of 205 sites run by 166 organization, integrated information service about company support business of government and their policies, and business portal service such as knowledge, blogs, forms, education.

3.2. Trade Facilitation

3.2.1 U-Trade Hub

Korean government is committed to promote e-Trade as a measure to increase the competitiveness of Korean business in borderless global trade environment of the 21st Century. The e-Trade facilitation Committee, established to prepare an e-Trade infrastructure, completed phase 1 & 2 projects to establish the uTrade Platform. After the uTrade Hub officially opened its service in May 2007, phase 3 uTradeHub project which included electronic Bill of Lading (e-B/L), and electronic Negotiation (e-Nego) was implemented in 2007 and 2008. uTradeHub is an online single window that allows for swift and effective implementation of all trade related process for international trade such as marketing, import/export licensing, logistics, customs clearance, banking and negotiations.

<Figure 2 : uTradeHub>



3.2.2 UNI-PASS

Since UNI-PASS, the electronic custom clearance portal system was opened in November 2005 by the Korea Customs Service (KCS), Korean traders can use either EDI Clearance service or Internet Clearance service depending on their business environment. UNI-PASS provides all related customs administration such as export/import clearance system, duty collection system, export/import cargo management system, duty drawback system, and the clearance Single Window. In 2007, UNI-PASS won the 2nd e-Asia Award administered by AFACT as best practice in the 'trade facilitation' field.

Since its opening, there is a significant increase in the use of the Internet customs clearance portal. Also, as UNI-PASS is recognized as an advanced custom clearance system, many foreign countries have requested benchmarking on it and many cooperative projects have been performed. In 2007, Korea Customs Service (KCS) signed MoU with Department Customs of Nepal to perform Feasibility Study for development of e-customs system in Nepal, signed MoU with Philippines for Customs Data Exchange Project, and signed an audit & consulting contract with Dominica Customs for the establishment of UNI-PASS in Dominica.

3.3 e-Business

3.3.1 e-Learning Promotion Program

e-Learning has been focused as one of key industries for next generation in Korea. Since e-Learning Industry Development Act has been enacted in 2004, Korean government implemented various programs and projects to promote e-Learning.

For e-Learning policy development, survey on actual conditions of e-Learning industry and publication of 2006-2007 e-Learning Whitepaper were carried out in 2007. For the e-Learning standardization, KIEC operates domestic e-Learning Standardization Group consist of 10 experts from public and private sectors, and participates in international standardization organization such as ISO/JTC1 SC36 and LETSI(Learning, Education and Training System Interoperability). After KIEC established Korea ADL Partnership Lab, KIEC entered into MoU on SCORM Certification with the U.S ADL in Aug. 2007.

For the human resource development, method and courses of training program have been diversified for the target trainees and for the purpose of the training courses. New training courses including 'e-Learning consultant', 'e-Learning project leader' have been developed, and introduction of e-Learning certification program was studied in 2007. For the promotion, 2007 e-Learning Expo was held in September 2007, and e-Learning Biz -Matching events with Singapore and with Malaysia were organized in December 2007.

Furthermore, Korean government established 'Building e-Learning Qualification



Certificate System and Infrastructure Plan' in January 2007 to set up a national level of comprehensive e-learning qualification certificate system. In December 2007, the standard on e-Learning qualification certificate and designation of Certificate organization was announced by the government.

3.3.2 e-Business Human Resource Development Program

To foster and develop e-Business human resources, KIEC operates two major programs: Financial Support program for university & college with e-business training courses, and e-business Human Resources Center program.

In 2007, 5 colleges and 5 universities trained 700 people by support of KIEC financial support program for universities & colleges. Also, 32 colleges, universities and graduate schools opened 72 intensive courses for CEO/CIO and trained 2,280 people. Besides the financial support to schools, KIEC studies on systematic education & training program, and operates e-Business Resources Center. There were 25 e-business on & offline training courses with 1,003 trainees in 2007.

For the development of overseas human resources, KIEC managed e-business training course in May 2007 and e-learning training course in July 2007, trained 15 people from 13 countries for each course. In June 2008, KIEC organized e-business training course with 14 trainees from 12 countries. The training course is a one week course on e-business or e-learning lectures with company visits.

3.3.3 CeDA (Certified e-Document Authority)

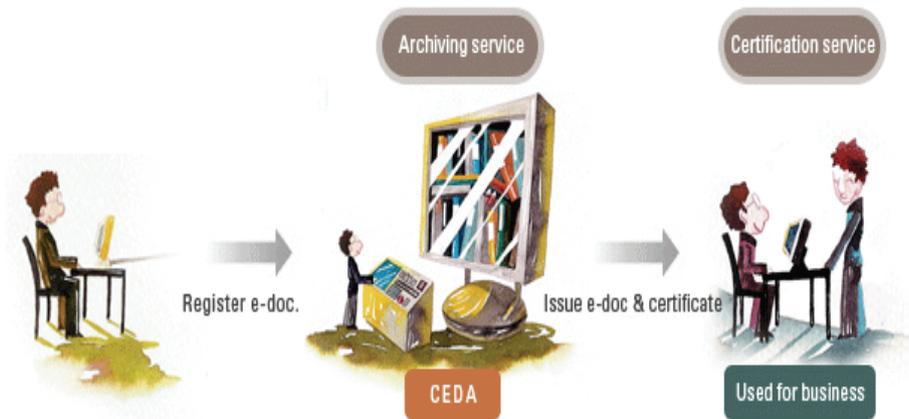
In Korea, there is a rapid increase in the use of electronic data message in every sector of society as e-Business implementation grows ever more. However, in the current business environment, the private sector has also kept a hard copy on paper in compliance with rules on preserving electronic data message for its legal validity while using electronic data message. To redress this issue, Korean government has prepared relevant provision in the Framework Act on Electronic Commerce through the revision in 2005. Under this Act, a trusted third party is designated as the Certified e-Document Authority for reliable preservation, authentication, and circulation of electronic data message. The data message preserved in CeDA is legally binding; its authentication is guaranteed by law, and it can be circulated.

As KIEC is designated as a support agency for CeDA program, KIEC promotes various activities including the development and revision of related laws and regulations, designation and management of CeDA, advancement of CeDA archiving technologies, and promotion of CeDA program.

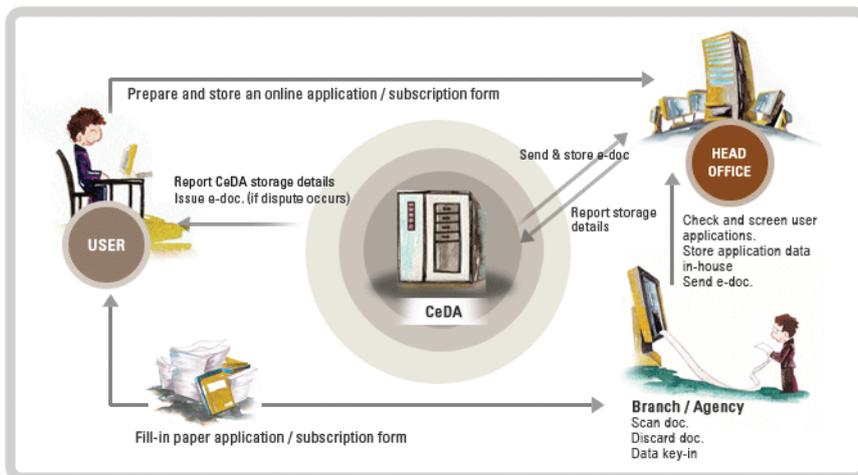
In 2007, Framework Act on Electronic Commerce was revised to give legal effect on digitalized document. Regulation on the procedure and method of producing a digital document was also announced. KIEC applied for domestic patent on 4 types of archiving technical specifications for CeDA as well as applied for overseas patent on CeDA business model in 2007. For the advancement of CeDA technology, user system technical specification was newly established and 3 other technical specifications were revised in 2007. Intensive education and training courses on digitization of document that has legal effect were developed in 2007 as well.

As of August 2008, three companies (KINET, LG CNS, Samsung SDS) were designated as CeDA, and examination of new applicant, Korea Electronic Power Data Network (KDN) is in the process.

< Figure 3-1 : Basic service model of CeDA >

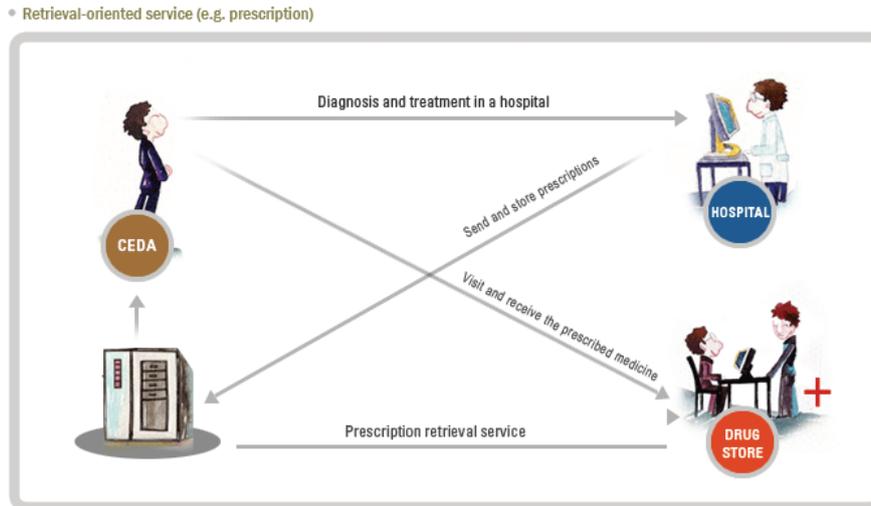


• Storage-oriented service (e.g. application & subscription forms)





< Figure 3-2 : Supplementary services model of CeDA >



3.3.4 Other programs/projects

Other e-Business programs includes eTrust certification program for consumer protection in e-Commerce, the Electronic Commerce Mediation Committee (ECMC) for alternative dispute resolution of e-Commerce dispute, Research on digital innovative policy, and the Knowledge service industry program.

As of August 2008, there are 78 commercial websites certified with eTrust Mark. For the year 2007, the number of disputes received and mediated by ECMC was 2,668, which was about 34% increases compared to 1,991 of the previous year. In 2007, Korea e-business index survey and 2007 e-business Whitepaper publication were carried out, and Innovative strategy on industry digitization was established. The knowledge service industry program was launched in January 2007 to foster the knowledge service industry as new growth engine. Various projects for knowledge service industry were implemented in 2007 such as support for R&D on strategic technology of knowledge-based service, establishment of strategy on knowledge service industry, and development and distribution of knowledge based service business model.

SECTION IV – Other advanced applications - IT - enabled Service (ITeS)

4.1 U-City

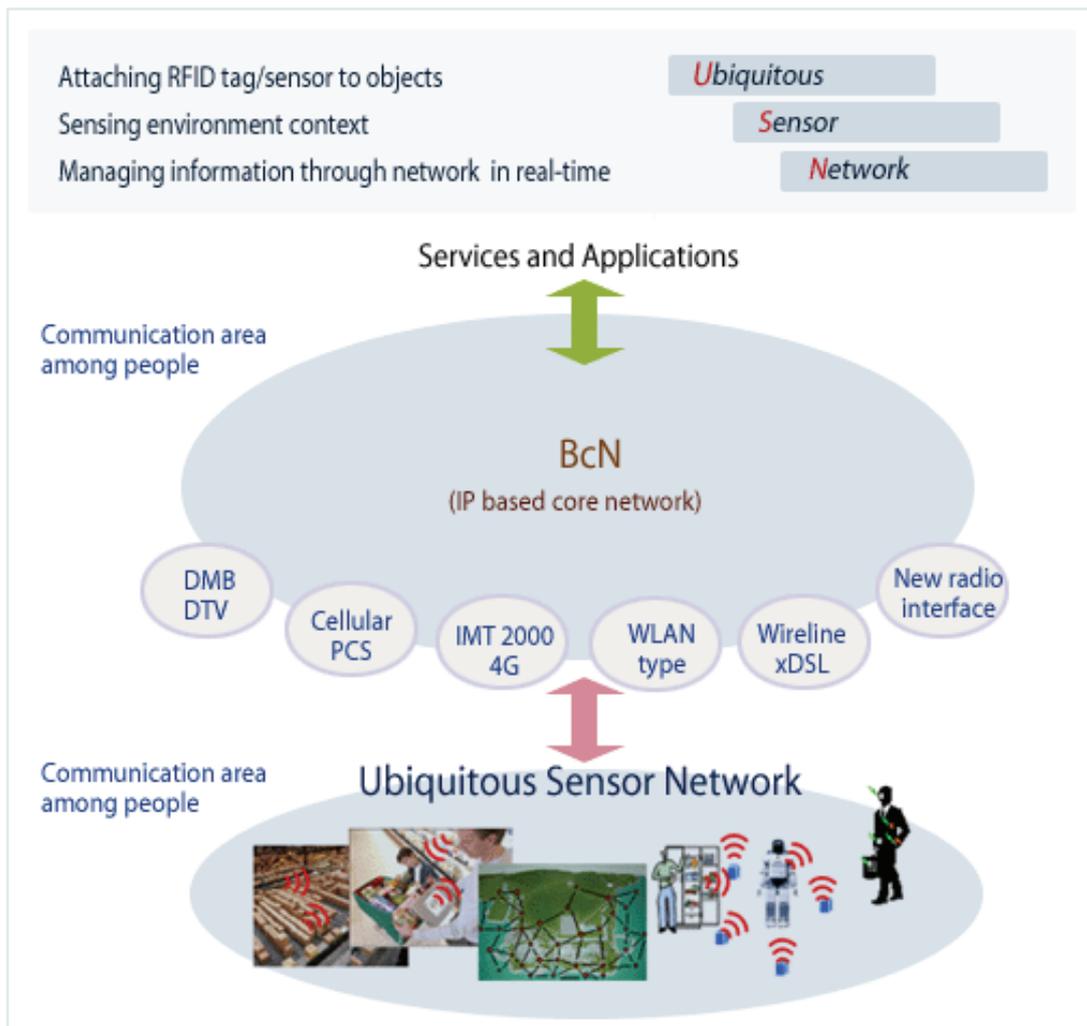
Recently, rapid ubiquitous IT technology development such as RFID/USN, BcN, WiBro, have raised awareness and increased expectations of u-Society in all around the worlds. In December 2006, Korean government established u-City development master plan to build safe, healthy, convenience and comfortable city. u-City is ubiquitous sensor network based city where IT infrastructure, technology and service are integrated into housing, economy, traffic and other facilities. In 2007, 6 u-City testbed projects were selected to develop standard u-service model, and Guideline for development of u-City infrastructure was established.

4.2 RFID/USN

Ubiquitous Sensor Network (USN) is constructed by allowing an electronic tag, which is attached to objects to sense the surrounding environment. It manages real-time information through a network. The end result is a unified BcN (Broadband Convergence Network) and ultimately a Ubiquitous Network. USN technology is the combination of wired and wireless networks consisting of an electronic tag, reader, middleware, and application platform. RFID Technology will become a core technology that can be used widely in the fields of logistics, distribution, pharmaceuticals management, and military logistics in the future.

Korean government established a finalized U-Sensor Network (USN) Construction general plan in 2004 and promoted RFID and USN projects. In 2007, RFID Expansion Projects, USN Pilot Projects, and u-Service Pilot Projects were launched. u-IT Full expansion draft was established in 2008.

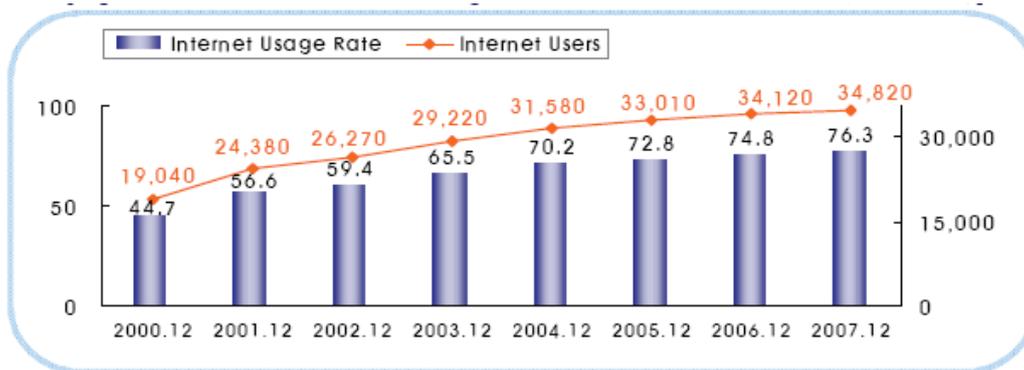
<Figure 4 : Ubiquitous Sensor Network>



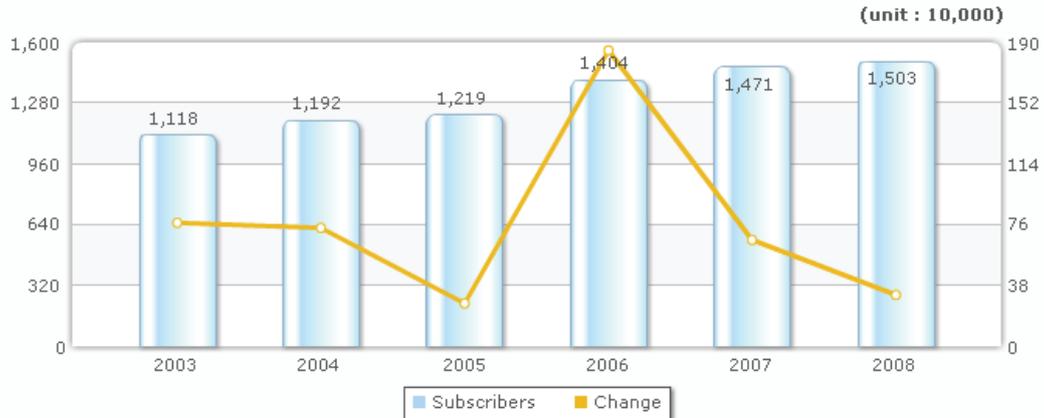
Appendix

Indicators of Information Readiness – Basic Infrastructure

- Internet users



- Broadband subscribers



- Mobile subscribers

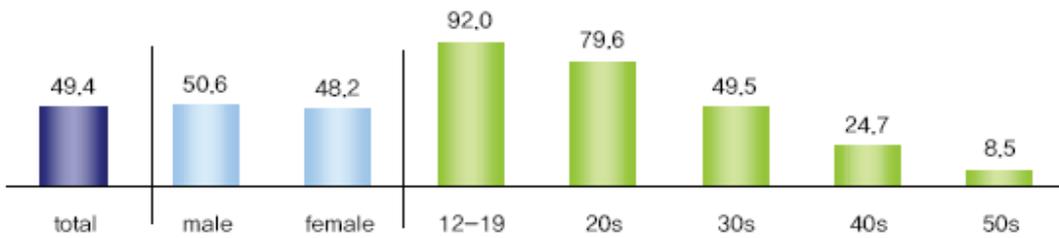
(unit: 1,000)

Service Provider	2006	2007	2008.7
SK Telecom	20,271	21,968	22,770
KTF	12,914	13,721	14,167
LG Telecom	7,012	7,809	8,093
Total	40,197	43,498	45,031



- Mobile Internet

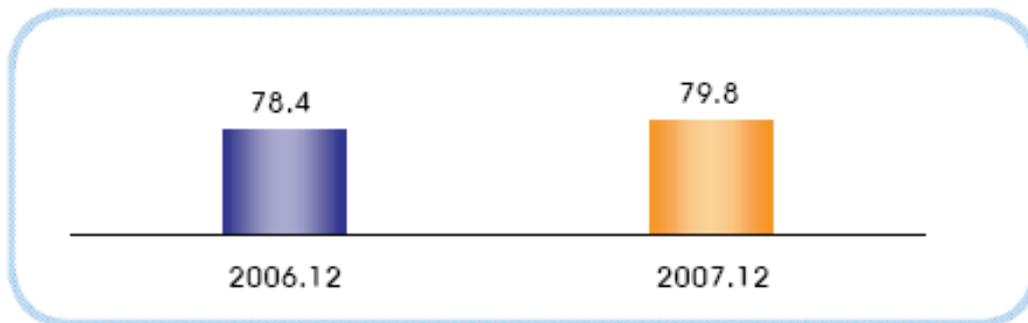
- 49.4% of mobile phone users) of ages 12 to 59 have used the mobile phone wireless Internet within the last 1 year



Indicators of Information Readiness – Basic e-Life

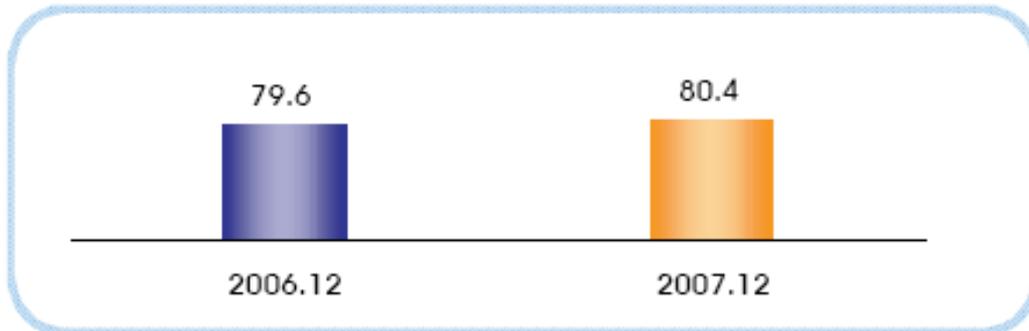
- Household online

- Out of the total households, 79.8% have (wired) Internet access, which is up by 1.4%p compared to December 2006.



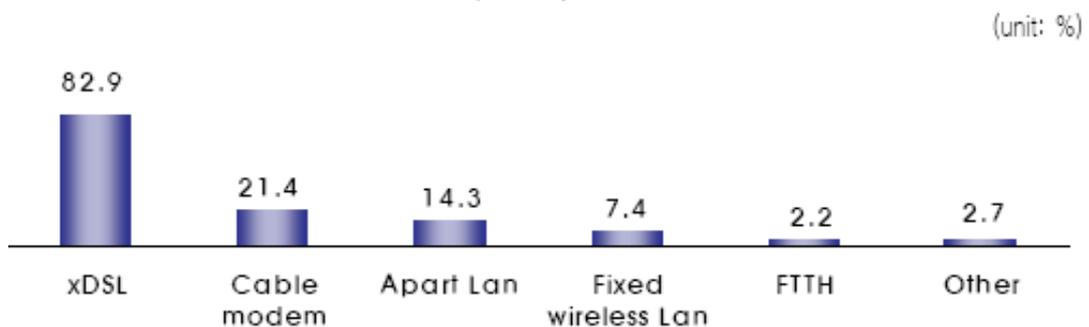
- PC/NB ownership/penetration

- The rate of households with computer(s) is 80.4% in 2007.



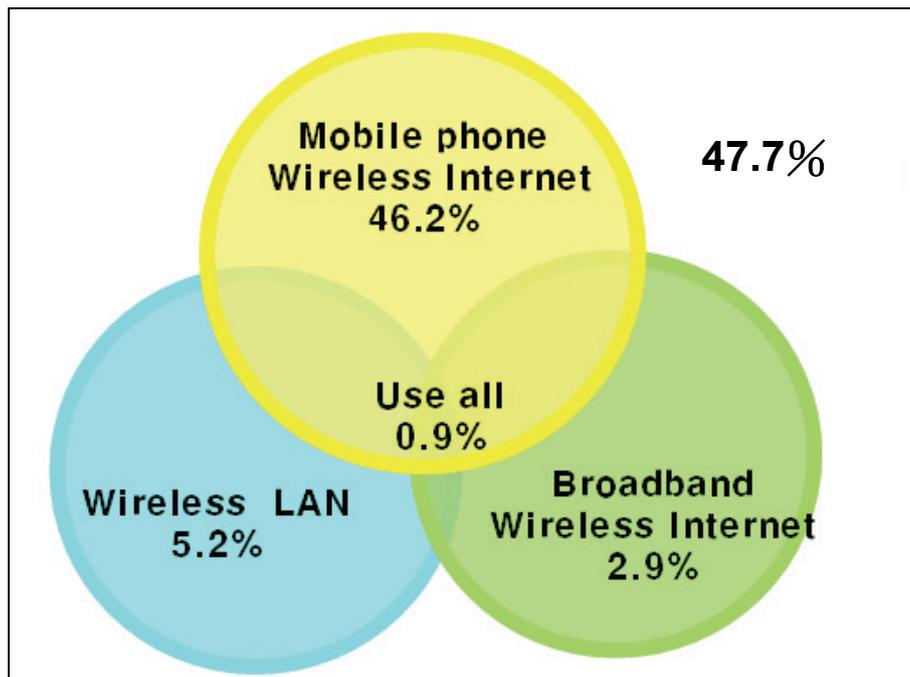
- Household broadband penetration

- 82.9% of households with (wired) Internet access by using xDSL, while 21.4% and 14.3% use the Internet through 'Cable modem' and 'Apart LAN', respectively.





- Wireless and Mobile Internet penetration
- The wireless Internet usage rate within the last 1 year is 47.7%



* Wired & Wireless internet data source: National Internet Development Agency of Korea.

* Mobile subscriber data source: mobile telecoms service providers.

MONGOLIA Progress Report



Mongolian National Chamber of Commerce and Industry



2008 Members Progress Report : MONGOLIA

SECTION I – GENERAL CONDITION UPDATE

The Parliament of Mongolia and Government of Mongolia give a high priority and significance to ICT as a main driving tool and catalyst for social economic development of Mongolia in 21st century. The Government Action Plan defines practical actions concerning introduction of e-Government into all government institutions at all levels, to modernize and centralize basic network of telecommunications to international broadband, to provide integrated system of information by creating integrated/combined code in the Nationwide/whole country, to establish information integrated network hospitals, to provide computers to homes and schools of the center of population and with the regular source of energy.

As establishing e-Government to increase in involvement of people in the activity of the State with their efforts as well as to bring smart service into existence, to reduce bureaucracy and to improve information adequacy and base/foundation of information society will be laid.

1.1 Information Technology Status

The last two years have been challenging and stimulating for the development of information and communications technology in Mongolia. A number of initiatives – addressing policy and regulatory framework, infrastructure, internet and IT services, human resource-related and online applications and content developmental issues were successfully initiated and implemented, resulting in the radical development of the ICT sector in Mongolia.

□ **Table 1 : IT Indicators, 2007**

2007	Indicators:	Internet service providers (ISP)	Permanent Internet users thous.person	Internet cafe	Personal computer	Personal computer per 1000 population
	Number:	34	30.0	105	314 080	46

Source : National Statistical Yearbook, 2007

1.1.1 IT Sector Human Resource

As viewing other leading IT countries' experience, high priority is given to skilled human resources in order to progress the IT sector into an economically efficient sector.

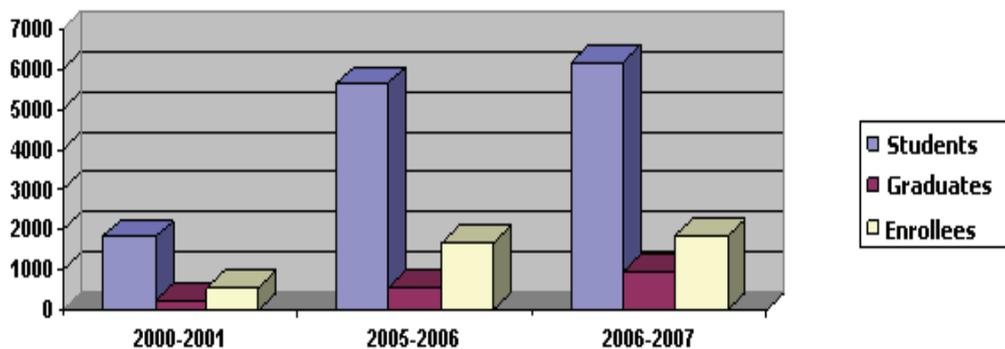
The Government of Mongolia focuses on the development of the IT sector human resources and puts forward the following objectives:

- e-Mongolia national program, to educate a great number of highly skilled specialized experts and researchers in the ICT field.
- As stated in the master plan to develop Mongolian education sector up to 2006-2015, to increase the number of students in engineering and technology field up to 25% of all students.
- As stated in the "Direction towards IT offshore outsourcing development up to the year of 2015, to increase the number of employees in the offshore outsourcing field up to 15000 by 2015.

In order to enhance competitiveness with other countries in the outsourcing field, it is requisite to raise the number of IT professionals, involve them in re-training and to improve the training quality of professional schools.

Over 300 higher education institutions are educating IT professionals and the number of enrollees is increasing each year. (Picture 1)

< Figure 1 : Number of students, enrollees and graduates in IT field /bachelor/ >



Source : National Program for Developing IT Sector, NITP, 2007



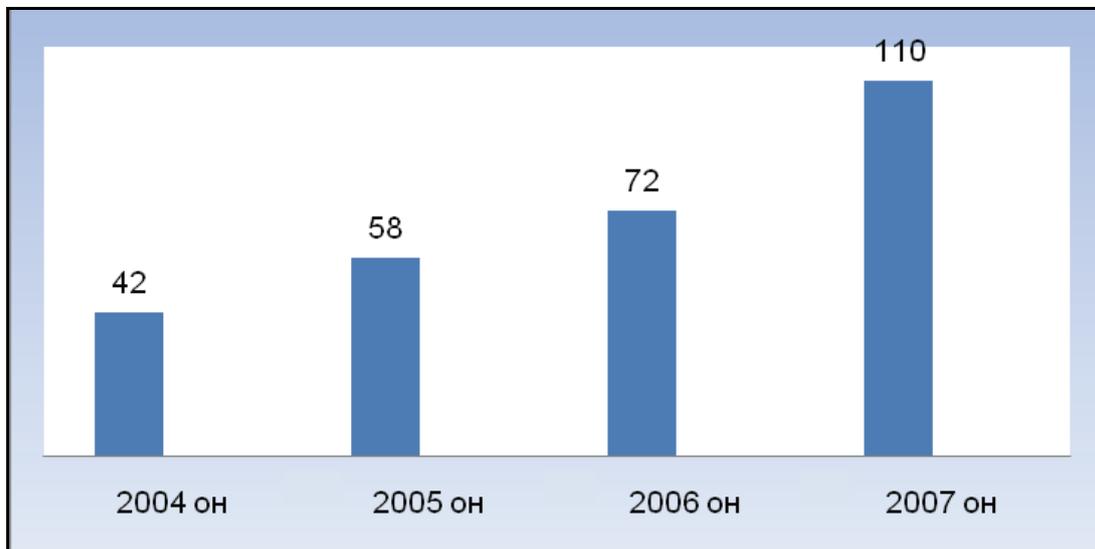
In addition to increasing the number of students, it is time to focus on the training quality of the education institutions. Consequently, IT higher education institutions, NITP and IT companies jointly founded “Information technology consortium” NGO in 2006 with the purpose of supporting activities to elaborate the course content and evaluation standards of professional education and the integrity of training and practice.

National IT Park (NITP) and Information and Communication Technology Training Center, under the School of Communication and Information Technology, Mongolian University of Science and Technology (MUST) are operating in re-training and the specialization of IT professionals. With the intention to improve the knowledge and competence of the sector human resources, an IT examination system and skill standards of Asia are being introduced into Mongolia.

1.1.2 Investment in ICT Sector

In 2007, total investment in ICT sector was 108 billion tugrug.

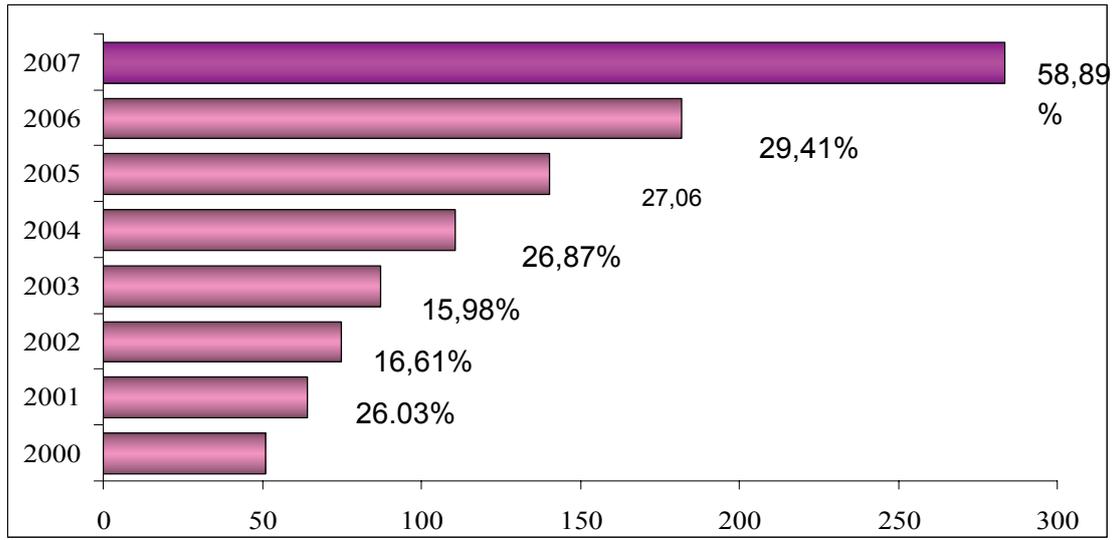
<Figure 2 : Investment in ICT Sector>



Source : “ICT Sector Profile”, ICTA, July 2008

Total revenue of ICT sector was 230 billion tugrug in the end of 2007.

<Figure 3 : Total Revenue growth of ICT Sector>



Source : "ICT Sector Profile", ICTA, July 2008

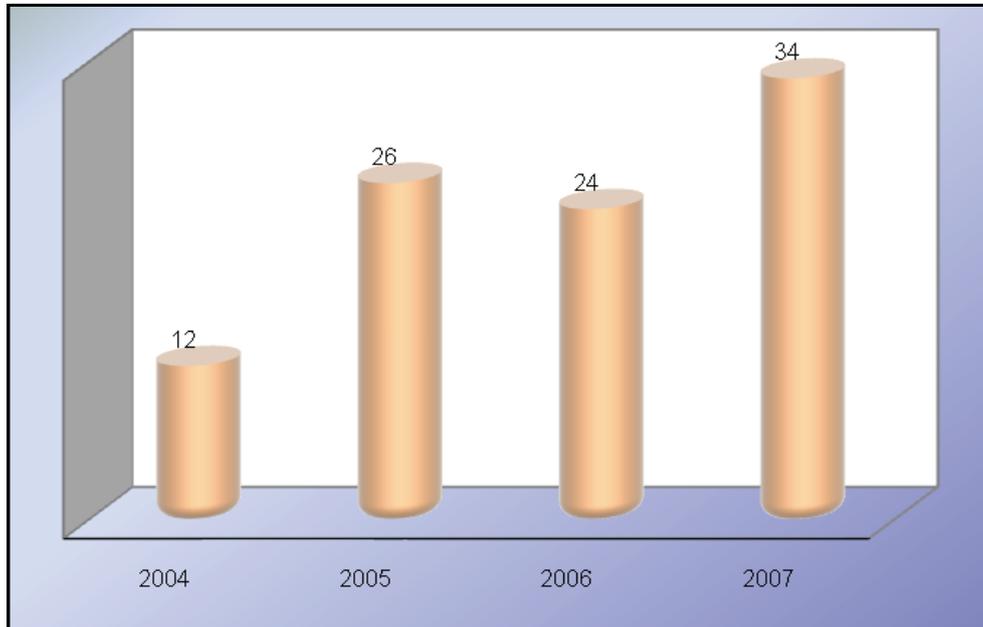
1.1.3 Internet Service Provision

The first Internet service provider commenced its activities in 1996. Over the past 12 years, the Internet service provision has undergone extensive changes and developments. This includes an increase in number of Internet service providers, an increase in the bandwidth for Mongolia, diversified services offered through the Internet service providers and an expansion of both the Internet user base and the demand for services.

Currently, there are 34 companies with licenses for Internet service provision. Most of ISPs are connected through Railcom, which is connected to the world network through China Telecom and Trans Telecom Russia via fiber optic lines.



<Figure 4 : Internet Service Providers (ISPs)>



Source : "ICT Sector Profile", ICTA, July 2008

The end of 2007, there are 34 ISP companies on the marketplace and their permanent internet users are more than 30.000.

1.1.4 Personal Computers

The supply of computers and information and communications technology equipment and accessories to Mongolian market has been extensively growing for last 15 years. There are over 100 large, medium and small companies to supply computers and other information and communications technology' equipments to the Mongolian market. There are desktop and laptop computers, printers, scanners, copy machines, network equipment (such as hubs, switches and routers), plotters, and other accessories supplied by companies. Through the introduction of custom and value-added tax exemption on some hardware, the "Computers for all" program, which hardware suppliers played extensive roles in, has boosted the purchase of computers and equipments not only towards office and business use, but also towards households, entertainment and leisure purposes.

< Figure 5 : Number of Personal Computers >



Source : "ICT Sector Profile", ICTA, July 2008

The computer suppliers' companies have established MASCO (Mongolian Association of Computer Supplier Companies), which actively participated in the design and the implementation of the "Computers for all" program. Considering that this program has been implemented initially in the major cities, Ulaanbaatar, Darkhan city and Erdenet city, the data was retrieved from the members of the MASCO on number of computers sold by those companies in 2005. According to this data, there were over 25,000 computers sold between June 29, 2006 and March 2007.

1.1.5 Software

The software development in Mongolia is one of the fast-growing sectors in Mongolia. Although the majority of their products are comprised of tailor-made development and adaptation or customization of software applications, extensive efforts had started in the direction of software outsourcing.

Approximately 80 private companies and over 2,000 developers are currently involved in customized software and application development in Mongolia. Of the 600 software developers, approximately 20 % are employed by the public sector while 80 % by private companies. The primary target market segments are the domestic corporate and public segments. However several companies are also involved in International software



development outsourcing (subcontracting market).

The usage of standard and customized applications for corporate users generally limited. In most commercial branches, the potential of increasing output, customer handling, logistics, product quality, etc. is heavily under-exploited.

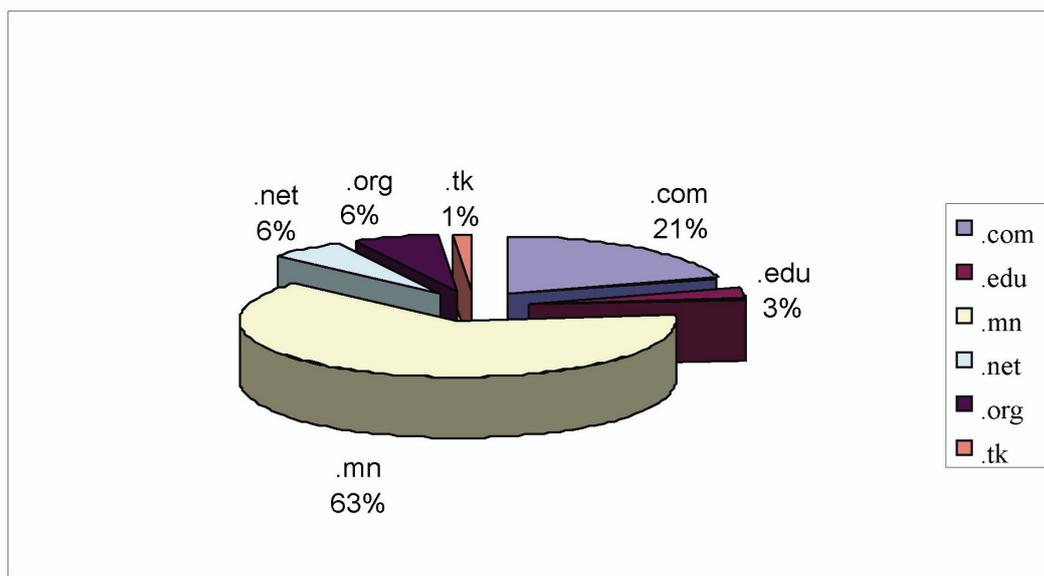
The dominant portion of the “off-shelf” software are those which come preinstalled and pre-configured with computers, such as Microsoft Windows, Microsoft Office, etc.

The software and application development companies have jointly and successfully participated in the “Exhibition of the software and applications – 2006”, during which a diverse of software and applications developed by the Mongolian companies can be seen. These varied from the entertainment programs, such as “Racing Through Ulaanbaatar”, a software developed by the StarSoft Co. Ltd, e-office related applications, and application and software developed to facilitate business operations such as accounting, finance, human resource management, inventory control, etc.

1.1.6 Websites

As for website content, 62% are written in Mongolian language and 36% contains two languages. (mostly English and Mongolian)

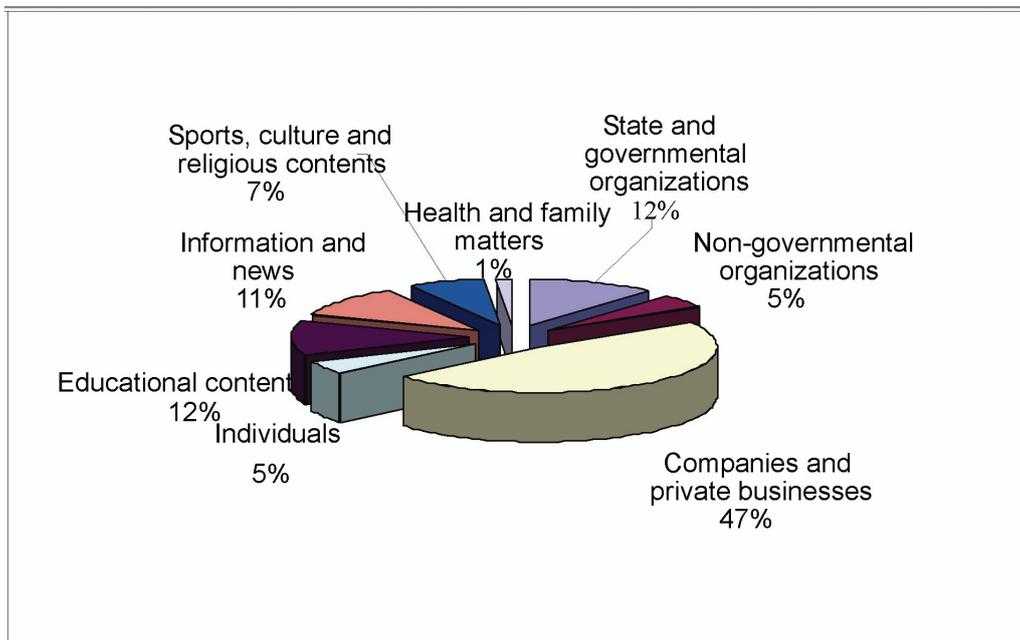
< Figure 6 : Percentage of Websites by domain names >



Source : ICT White Paper of Mongolia, April 2007

The nature of these websites are as follows: 11.6% belongs to state and governmental organizations, 4.7% to non-governmental organizations, 47.5% to private companies, 4.7% to individuals, 12.1% are websites of educational content, 11.2% are websites of information and news, 6.9% are websites of sports, culture and religious nature and 1.3% are websites of health and family related matters.

< **Figure 7 : Types of Websites** >



Source : *ICT White Paper of Mongolia, April 2007*

1.2 User Status

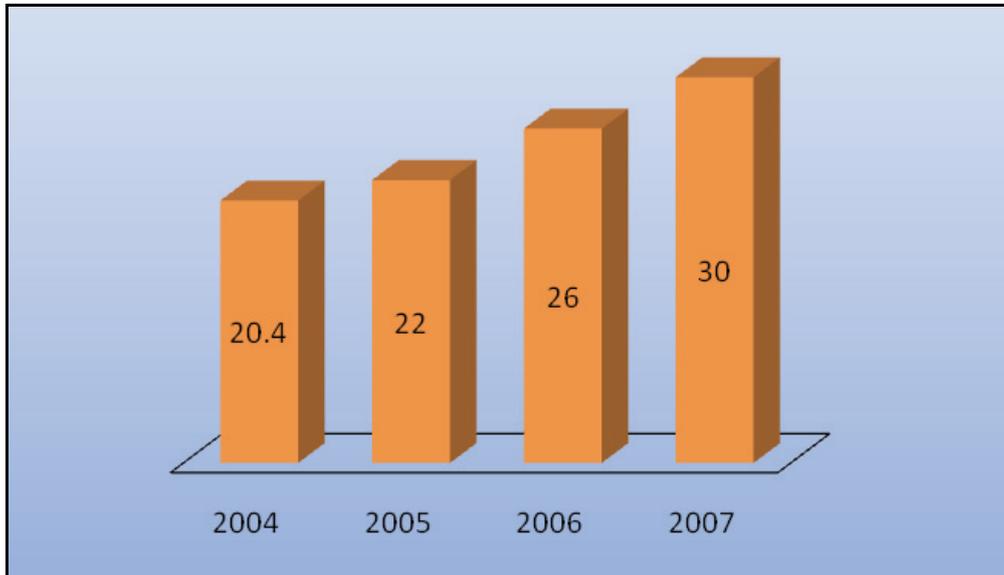
1.2.1 Internet Users

The number of Internet users is hard to calculate. The ISPs has provided information regarding the number of users with different methods of connecting to Internet, i.e. through dial-up, leased line, xDSL, fiber optic, wireless, etc.

According to statistics provided by Internet service provider companies, there are about 30.000 users on the Internet end by 2007.



<Figure 8 : Number of Permanent Internet Users (thous.person)>



Source : ICT White Paper of Mongolia, April 2007

1.2.2 Broadband Penetration

As of December 2007, the ways for Mongolian permanent internet users to access internet are dial-up modem (31%), ADSL (31%), Wireless LAN (12%), leased lines (20%), VSAT (1%) and other internet connection technology. While the ratio of Mongolian internet users accessing the internet via dial-up modem is decreasing, the ratio for accessing the internet via the broadband increases steadily.

1.3 Outsourcing Status

In Mongolia, since 2002, few software companies have started to implement projects in software development and information processing via outsourcing from the USA and Japan. So far, about 10 companies are operating in the field and income from the outsourcing business has reached approximately 1bln 200mln tugrug as of 2006.

Mongolian IT offshore outsourcing companies are operating in two directions including software development and data entry and processing. National Information Technology Park (NITP) adopted "National program for developing information technology offshore outsourcing

for 2008-2015” in 2007. “Direction towards IT offshore outsourcing development up to the year of 2015” has recognized Japan as a target market, because it is newly opened among the world’s biggest outsourcing markets.

There are several grounds for selecting Japan:

- It’s a newly opened market so competition is low
- Japanese language is close to Mongolian language or easy to learn
- Mongolia has friendly cooperation with Japan in all sectors including business, culture and sport

Currently, 41% of the total world software market is held by the USA, 15% is held by Japan and 30% is held by Europe. As stated by IDC (International Data Corporation), Japanese offshore outsourcing market is worth USD 15,38bln.

SECTION II – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

2.1 e-Chamber Initiatives

The MNCCI implements e-Chamber project to increase the number of online services by the Chamber to members, secondly, to increase the e-capacity of member organizations and business communities. The Business Information Service Portal Site is currently being established containing all e-services by the Chamber such as online member directory, barcode allocating, online library and foreign trade documentation etc. The **BUSINESS INFORMATION PORTAL SITE** will be put into full operation in early December 2008.

The project’s wider objectives are to support the sustainable development, increase the utilization of the information technology to reduce poverty and to resolve wide range of developmental issues, to support the social efficiency in the rural areas, and to strengthen the business partnership mechanisms. To reach this object the **BUSINESS INFORMATION PORTAL SITE** information database is established to improve the Chamber and its branch Chambers internal information networks.



2.2 Trade Facilitation (SEW)

In 2005, the MNCCI initiated and translated UNECE Recommendation No.33, then submitted to the Government of Mongolia. Also they submitted letter to the Prime Minister of Mongolia. Working Group (WG) for the SEW established by Government Resolution No.251 of October 18, 2007. The USAID-EPRC project in Mongolia provides technical support. In 2007, WG adopted the Action Plan of SEW in Mongolia.

The objectives of the SEW action plan are:

- Public awareness raising
- Legal framework review
- Improve IT infrastructure
- Technical and feasibility study of SEW implementation
- Define organization structure of the PPP based legal entity, investors, strategic partners
- Official launch of the PPP based company

Also there are several challenges ahead:

- Lack of leadership and commitment among the related public institutions, excluding customs
- Lack of administrative and technical readiness on simplification of foreign trade documents with regard to UNEDOCs principles
- Lack of knowledge among stakeholders and public awareness on the SEW concept
- Technical assistance on conducting feasibility study on PPP based SEW system
- Capacity building of stakeholders in terms of e-Certificate, e-License and e-Signature concept, train professionals
- Need to review legal and regulatory framework
- Private sector players ability needs to be improved to access SEW activities and increase their active enrolment

2.3 E-Mongolia National Program

When the E-Mongolia program had first been implemented in 2004, the nine ISPs were individually accessing the Internet through satellite and the total bandwidth was 78 Mbps

(download-44 Mbps, upload-34 Mbps). Currently, the total bandwidth is 247 Mbps through Railcom only. This is done through STM-1 to China and 46 E1 to Russia.

In 2004, most of the ISPs were using VSAT to access the Internet, which was expensive--approximately 1 Mbps=3-5,000 USD. Presently, there is a unified gateway through the Mongolian Internet Service Providers Association (MISPA), which has allowed the cost to be reduced to 1,250 USD for 1 Mbps. Furthermore, considering that the VSAT connections are expensive, convincing ISPs to use a land-line has enabled the cost of 1Mbps to be reduced to 400 USD. This present price constitutes a cost reduction ten times that of year 2004.

Following these changes, considering that the cost of an external gateway has been decreased, the price for users of the Internet locally has been decreased as well.

For example, a 64 kbps connection was 59 USD in 2004; now in end of 2007, it is 20 USD, a reduction of cost three times that of 2004.

Recently, the Korean government has provided 20,000 DSL modems in the name of the President of Mongolia. The ICTA jointly with the Office of Presidency has been working with ISPs to deliver those modems to end users. With the implementation of this project, the number of Internet users is expected to increase and the speed of the Internet connection will be affected.

Along with the practical approaches of the E-Mongolia program, extensive efforts have been put into making changes in the regulatory and policy framework. The law on telecommunication was approved by the Parliament and Government of Mongolia in 1995 and additional changes were made in 2001; the law on radio frequency was developed in 1997-98 and approved in 1999.

SECTION III – Other advanced applications - IT - enabled Service (ITeS)

3.1 IT Learning Center

In 2007, with the support of Mobicom Corporation who is Mongolian first mobile operator and National Information Technology Park (NITP) operates IT Learning Center which is a showroom that aims to introduce the achievements in ICT development to the public, to encourage young generation's education and to familiarize people with ICT applications in



their daily life.

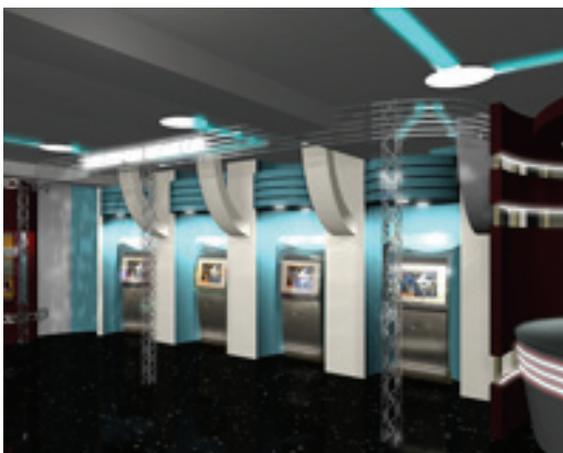
The establishment of the first IT learning center in Mongolia has allowed IT professionals and general public to familiarize with updates and achievements in rapidly developing information and communication technology field. Also there're variant IT enabled services.

Organization of IT Learning Center



"Explore the World"

This section gives an opportunity, relying on the advanced technique and technologies, to get information about countries and history of the world and to experience historical periods and geographical areas.



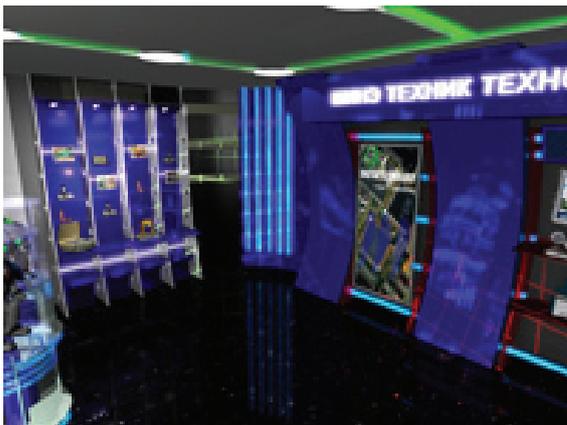
"e-Governance"

Though we have heard this word frequently, yet we often don't know what exactly it is. Then, here we can experience real e-Governance. The section will let us see how our life style can be changed when we transfer to e-environment by seeing the doctor, even receiving a medical treatment, paying our tax, obtaining education and much more online.



"Technology in Children's Eyes"

Many new advanced technological creations that meet children's interests will be waiting for their little viewers, telling the history of technology.



"High Tech or Cutting Edge Technology"

Here we can see not only the changes brought by robots and mobile phones, but also will experience how our clothes have become a simple solution of advanced technology and try on coats and hats with bluetooth connection.



"High Tech Apartment"

Here we can see how our home can be furnished with modern technological solutions. **For example:** Photos of your family no longer be kept in photo album. Instead, keep your memorable photos on the e-board. And then feel that sitting on your sofa while looking at your photos rotating in every 5 seconds under nice music is not a dream but a reality.



Saudi Arabia Progress Report



SaudiEDI

2008 Members Progress Report : Saudi Arabia

SECTION I – GENERAL CONDITION UPDATE

1.1 Saudi Arabia Outlook

The Kingdom of Saudi Arabia is transforming itself as one of the world's most competitive economies, and therefore, one of most lucrative markets for strategic investment. Here's why: It's all about the competitive advantages.

Saudi Arabia has a vast number of competitive advantages in many strategic sectors at regional and global levels, which yield significantly higher returns on investment. Of course, it is no surprise that Saudi Arabia is ranked first with regards to prices of energy provided for investment projects. As such, Saudi Arabia continues to be a natural choice for investors in all energy intensive industries. But the competitive advantages in today's Saudi Arabia run much deeper than just energy. It's about creating a world-class business environment that combines an ease of conducting business with low costs. It's about unfettered access to regional markets and financial services. Above all, it's about our country's vision, and our shared commitment, to seeing your business thrive.

As the world's fastest reforming economy, the momentum behind this economic transformation is undeniable. It is therefore no surprise that, in just three years, Saudi Arabia has risen from 76th to 23rd position in the World Bank's Ease of Doing Business Index and is currently number one in the Middle East. Financially speaking, investment in Saudi Arabia realizes high profit ratios for local, foreign and shared projects, with low risk exposures, and a simple form of taxes and property registration fees. The Kingdom currently occupies the fifth rank regarding tax liabilities and fourth in property registration costs, according to business performance reports 2006/ 2007 issued by the International Bank. Thus, under such a pro-business environment, firms in Saudi Arabia thrive. According to a comprehensive study published by Arab Forbes Magazine's in late 2006 assessing the performance of (1616) joint-stock companies in the Arab world, the first three positions were Saudi companies. Out of the top 50 companies, 22 were Saudi companies when applying a number of rigorous standards such as operational efficiency, market value, sales, revenues, dividends, return on equity, return on two last year assets (2004 - 2005), and company expected growth.

In the banking sector, the ten Saudi banks are among the best banks in terms of profitability and growth potential in the Arab World. These Saudi banks comfortably rest within the list of biggest 1000 banks of the world, according to the Financial Times 2006. Also the 3 biggest banks in the Arab world are Saudi, ensuring comprehensive financial support for your business from every angle.



Monetarily speaking, the Saudi Riyal is one of the most stable currencies in the world, and offers great competitive advantages in the region. There has been no significant change in its exchange value during the last 3 decades. There are no restrictions on foreign currency exchange and outgoing money transfers. Inflation rates in Saudi Arabia are very low and the Kingdom is endeavoring to sign bilateral agreements with an increasing number of countries regarding investment encouragement, protection and arrangement of taxation issues.

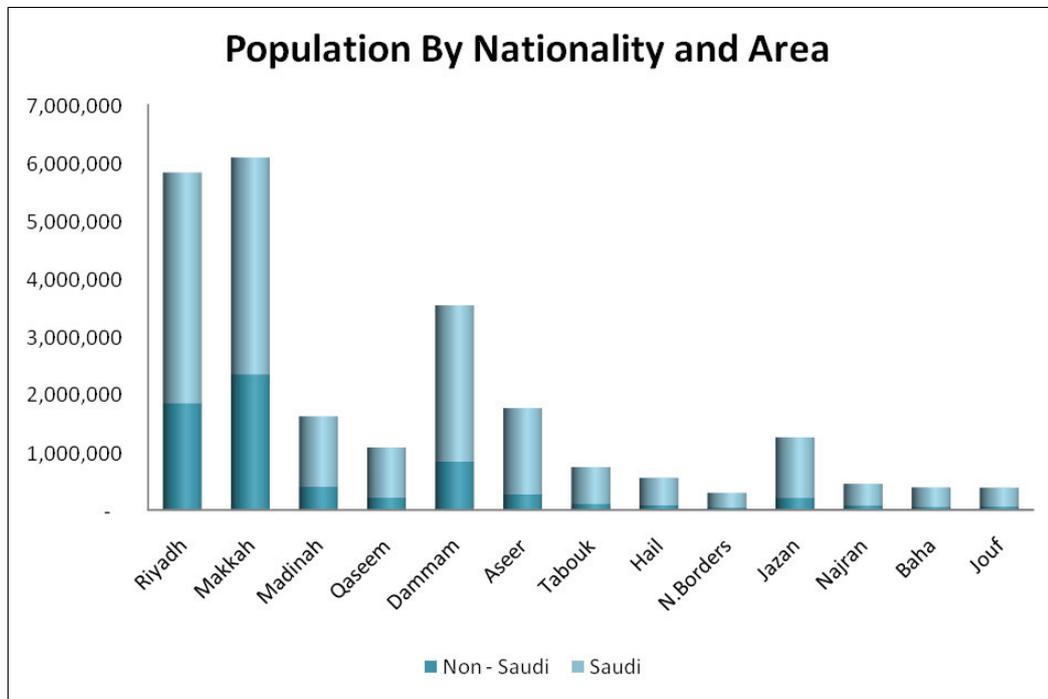
A report issued by Milken International Corporation in Feb. 2007, noted all of the above points in bestowing upon the Kingdom of Saudi Arabia the first rank worldwide with respect to total economic environment classification (i.e. environment capability for project management and financing). Milken Corporation focused on Saudi Arabia's low and stable interest rates, low inflation and low taxes, compared with international standards.

In addition to the Kingdom's strong economic climate for investment, one of the country's strongest advantages and incentives for foreign investment, however, is its people.

The majority of Saudi Arabia population is young, with 45% of the country under 15 years of age. Recognizing this as the country's greatest potential asset, the Government has spent billions of dollars towards actively improving the human resources development pattern to better provide for the economic boom set to continue in Saudi Arabia for the near future. All of this provides investors with more opportunities to select the highest competence labor for their projects.

1.2 Saudi Arabia Population:

Based on the latest demography studies by The Central Department of Statistics, put the population of Saudi Arabia at 23.98 Million. The Saudi population constituted %72.9 (17.49 Million) while non-Saudi population constituted %27.1 (6.48 million).



As the above chart shows that the population is consternated within three regions namely Riyadh, Makkah and Dammam. Moreover, Saudi nationals represent the majority in those regions.

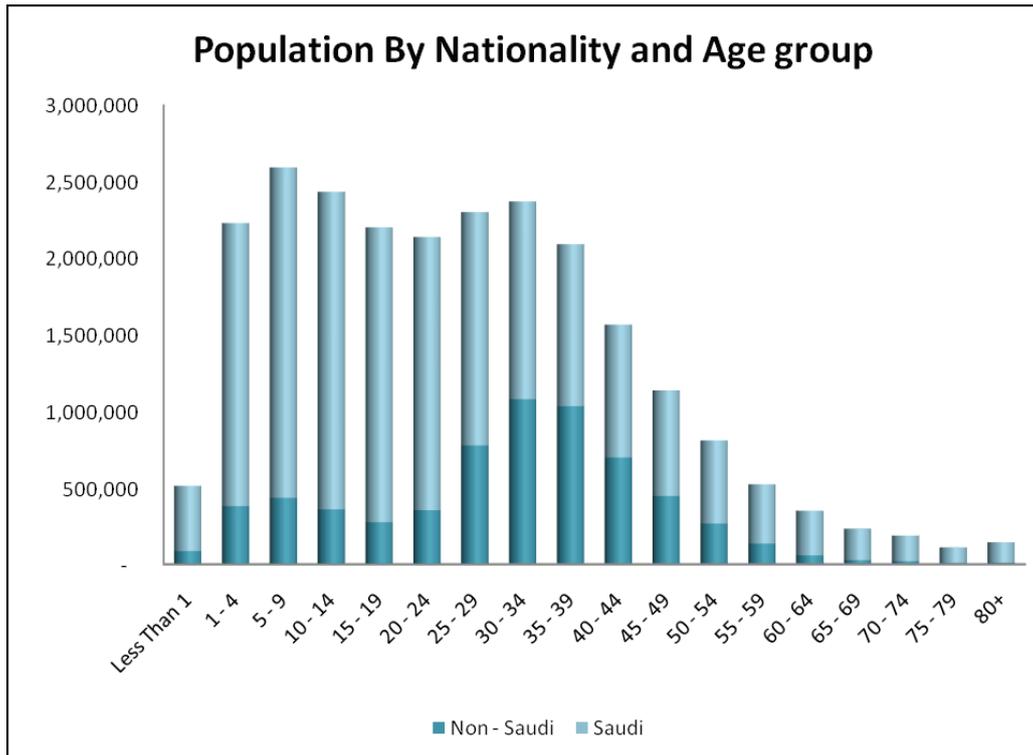
Saudi Arabia population is considered to be a young population. The study shows that %60 of population is less than 30 year old. This considerable percentage will influence the strategies of all government agencies i.e. education, housing and most importantly employment. It is also noticed that non-Saudi population increases starting from age group 25 – 29 due to work force needed in Saudi Arabia. The following chart clearly shows that the work force which is usually starts at the age of 25 will replace the not-Saudi within five to ten years time frame.

There are more than 3 Million Saudis enrolled in schools from the age of five to thirty in education facilities. 14% are in universities, 18% of those students are in high school stage, 22% are in intermediate stage and 44% are in primary stage. Those students will be ready for employment within five to ten years time frame. Nevertheless, currently Saudi Arabia is having an unemployment rate in the range of 12%.

Education in Saudi Arabia is provided by both government and private sector for all schooling stages. Currently there are more than 26,000 schools in the general education stages mixed between government and private education facilities. Furthermore, more than 49



governmental and private colleges and universities offer undergraduate and graduate programs.



Latest statistics of the Ministry of Civil Service indicate that the number of employees in the government sector (Saudis and non-Saudis) was 803.7 thousand at the end of 2006 with saudization percentage of 92%. Likewise, the Ministry of Labor indicates that the number of employees (Saudis and non-Saudis) in the private sector was 5.6 million at the end of 2006 against 5.4 million at the end of 2005 with saudization percentage of 12%.

A breakdown of the labor force by region at the end of 2006 shows that, the main three regions are Riyadh, Makkah and Dammam accounted for more than three quarters of labor force in the private sector. Riyadh Region occupied the first rank with 32.4 percent (1.8 million workers) of the total manpower in the private sector, followed by Makkah Region 24.0 percent (1.3 million workers). Dammam ranked third with 21.8 percent (1.2 million workers) of the total manpower in the private sector.

1.3 Saudi Business Market

The latest statistics issued by the ministry of commerce and industry shows that the department of commercial registration issued more than 646,000 CR at the end of year 2006. Two third of those CR issued in Riyadh, Makkah and Dammam only.

Furthermore, the general organization for social insurance GOSI showed that the total active organizations in Saudi Arabia are more than 138,000 by end of year 2006. Government sector represents 0.8% of total active organizations accounting for 1,128.

The private sector account for more than 136,000 with a percentage of 99.2%, more than 70% of all active organizations belong to into trading and construction businesses. GOSI statistics shows that 92% of establishments are owned by individuals followed by limited liability companies.

1.4 Major Activities by Sector

1.4.1 Government

Saudi government spending reached SR443 billion in 2007. Total national revenues for 2008 are projected at SR919 billion and government spending is expected to reach SR514 billion in 2008. Among the government projects on the block is a three billion Saudi riyal project for implementing the first phase of e-government project and railways across the Arabian Peninsula.

1.4.2 Petroleum and mining sectors

Oil production is expected to grow in 2008 due to increasing demands globally; business activity in the oil sector is expected to grow in the next few years including some major petrochemical projects. Petrochemical projects in Jubail and Yanbu dominate the major manufacturing projects entering production.

The Ministry of petroleum and minerals accounted for 1,198 valid licenses for mining operations by the end of 2005. The Saudi Arabian Mining Company, Maaden, which has four strategic units (precious metals, phosphate, aluminum and industrial metals) and employs several hundred people, plans to double gold production to 14 tons by 2009 and currently produces 14.2 tons of silver. It is also exploiting Al Jalamid phosphate mine (one of the world's largest phosphate deposits) and Al Zabirah bauxite mine. A \$3.2 billion processing complex in Jubail will produce various chemicals, detergents, animal food and 3 million tons of diammonium phosphate (DAP) fertilizer annually with phosphate brought from Al Jalamid.



Saudi Aramco, the world's largest oil and Gas Company, has oil output of 8.6 million barrels per day and gas output of 4.6 billion cubic feet per day. It is a global company with a presence in Asia, Europe and the United states, employing 56,000 people in 50 countries.

1.4.3 Finance, banking and insurance

Saudi Arabia's banking sector is still performing well, despite the impact of slumping share prices and bank lending. The core market consists of eleven local majorities owned commercial banks and an increasing number of foreign banks, Al Bilad Bank and Al-Inma Bank being the most recently incorporated local banks. Since 2002, the government has been gradually opening up the banking sector to foreign competition. Emirates Bank International, National Bank of Kuwait and National Bank of Bahrain all opened branches in 2003. BNP Paribas, Deutsche Bank and JP Morgan have followed during 2003 and 2004. Gulf International Bank, State Bank of India and the National Bank of Pakistan have also been granted licenses.

As a result of World Trade Organization (WTO) accession Saudi is restructuring its insurance sector and allowing foreign insurance companies to open branches. Saudi Arabian Monetary Agency (SAMA) reported last year that they licenses 24 joint stock cooperative insurance companies. It is estimated that the insurance market could be worth SR20 billion to SR30 billion within the next 10 years from its current SR4.7 billion.

Work will commence this year on the construction of the King Abdullah Financial District (KAFFD) in Riyadh, where the Capital Market Authority (CMA), the Saudi Stock Exchange (Tadawul), the Commodity Market and much of the banking sector is expected to relocate. The KAFFD will cover an area of 1.6 million meters and is expected to have office floor space of some 3.3 million meters.

1.4.4 Aerospace and Aviation

Saudi Arabian Airlines' 60-year old monopoly on domestic routes ended in 2007 with the launch Sama and NAS (National Aviation Service), the Kingdom's first budget airlines. NAS expects its business to increase to 19 aircraft, projects 10 million passengers by 2011 and expects to employ 295 people by 2009.

Saudi Arabian Airlines (Saudia) will privatize nine of its subsidiary companies and will be eventually be transformed into a holding company. Saudia carried a record 17.57 million passengers in 2006 and revenues of SR 14,500,000 in 2005. Saudia currently has around 24,000 employees.

According to General Authority of Civil Aviation (GACA) the opening up of the Kingdom's

civil aviation sector will create more than 50,000 jobs and contribute SR25 billion annually to the national economy by 2020. GACA plans to transform Jeddah's airport into a regional hub at an estimated cost of SR18 billion (\$4.8 billion). Meanwhile the High Commission for the Development of Riyadh (HCDR) is currently surveying for sites to build two new domestic airports in the Riyadh area. Overseas visitors to the Kingdom are expected to triple from a current 3.5 million in the next 10 years as growing numbers of Muslims visit the country for Hajj and Umrah.

1.4.5 Post and communications

Saudi Arabia's communications sector has grown dramatically in recent years fast tracked by the liberalization of the telecommunications market and its WTO commitments. According to STC research there are over 2,000 companies in this sector, almost half of these being in the Riyadh and Al Dammam areas. STC and Mobily alone employ almost 26,000 people combined and have combined revenues of about SR 45 billion. The newly liberalized mobile market currently has more than 19 million subscribers. Zain, winner of the third mobile services license in March 2007, is expected to acquire four million subscribers in its first year of operation.

Other parts of the communications sector are also active. Saudi has about 40 operational ISPs including the largest Awalnet that is being bought by STC. In addition to mobile and ISP services in Saudi Arabia, CITC issued two data service providers licenses and three voice licenses.

Furthermore, CITC issued VSAT and other telecommunication licenses with expected investment of more than SR 5 billion in building network infrastructure to offer advanced telecommunication services across Saudi Arabia.

Saudi Post Corporation, also part of the privatization process, employs more than 9,000 people across 1,200 permanent and mobile post offices and service centers.

Despite the relatively wide accessibility of post and communications services throughout the country, more than 75% of this sector is located in Riyadh area (27.41%), Makkah area (17.62%) and the Dammam (30.74%).

1.4.6 Manufacturing and industry

Dammam region is fast becoming one of the world's top industrial centers with over 150 world-scale manufacturing and production units to date and over 4,000 companies involved in manufacturing. Madinah, Makkah, and Riyadh areas account for most of the rest of the Kingdom's manufacturing.



Almost 50 percent of investment in all major Saudi industrial projects is in the Dammam region, despite only accounting for 15 percent of the Saudi population and this 50 percent excludes Aramco investment. Although production is largely petrochemical-related, there are also facilities for steel, glass, construction materials, foodstuffs, aluminum products, pipes, air-conditioners, electrical equipment, carpets, soap and rubber products.

There are 45 new industrial plants planned, plus over 50 Saudi Aramco projects with a total investment of around \$200 billion.

1.4.7 Trading

Saudi's trading sector is the largest in terms of number of companies, with 59,255 companies in the sector equivalent to nearly 43% of the Kingdom's registered companies. 60% of these are located in the regions of Riyadh, Makkah and the Dammam. Twenty-two of the Arab News' Saudi Top 100 are trading companies or companies with diversified interests. A growing number of the market's top companies are trying to develop a regional footprint for their businesses across the GCC and sometimes further field.

1.4.8 Construction

Major construction companies in Saudi Arabia account for some SR 30 billion in revenues and about 20% year on year growth. With more than \$300 billion of projects either planned or already in construction, including a growing number of economic city developments.

The economic cities announced by Saudi Arabian General Investment Authority (SAGIA) so far are: King Abdullah Economic City in Rabigh, which focuses on promoting energy and transportation-related industries; Prince Abdul Aziz ibn Mousaed Economic City in Hail, which focuses on transportation and related logistical services; Knowledge Economic City (KEC) in Madinah; and Jizan Economic City (JEC), which will have a port, an industrial zone, a logistic service center, an energy/desalination plant and a residential zone. Another economic city will be in the northern region of Tabouk, while a mining and industrial city is planned at Ras Al-Zour together with a new port, bringing the number of seaports in Dammam region to four.

1.4.9 Electricity, Gas and Water

Saudi Arabia accounts for about 48% of the total power generating capacity in the GCC. The formation of Saudi Electricity Company began to open the door to private sector and in 2005 the country's first IPP (Independent Power Producer) came online, although SEC still

accounts for almost 90% of the country's total power generation capacity and employs 30,000 people. Over 2000-2005, the Kingdom's power generating capacity increased at a CAGR of 4.6% from 25,790 MW in 2000 to 32,301 MW in 2005.

Saudi Electricity Company is developing several new power plants at a total investment outlay of SR46.5bn (US\$12.4bn) over 2006-2017 and SR8.0bn (US\$2.1bn) in transmission projects. There are more than US\$ 13 billion of independent water and power project planned and, according to SAGIA (Saudi Arabian General Investment Authority) overall power capacity in Saudi Arabia is forecasted to grow to 59,000 MW by the year 2024 (32,301 MW in 2005) requiring an estimated investment of SR430bn (US\$115bn).

1.5 Environmental Factors

1.5.1 Political

- Saudi Arabia is governed according to Islamic law. Basic Law articulates the government's rights and responsibilities.
- King and Prime Minister Abdullah bin Abdul-Aziz Al Saud is both head of state and head of government.
- Council of Ministers which forms the Cabinet is appointed by the monarch every four years and includes many royal family members.
- The Shura Council (Majlis al-Shura) consists of 150 members and a chairman appointed by the monarch for four-year terms.
- Saudi Arabia is divided into 13 provinces: Riyadh, Makkah, Madinah, Dammam, Northern borders, Baha, Jouf, Qaseem, Aseer, Hail, Jazan, Najran and Tabuk.
- Each province has a governor, deputy governor and a provincial council. Half the members of the councils are appointed and half are elected.
- Despite many years of foreign predictions on Saudi Arabia's future instability and radical political change, the Kingdom remains stable.
- Saudi Arabia joined the World Trade Organization (WTO) at the end of 2005.
- Saudi Arabia covers an estimated 2,149,690 sq km in area, ten times the size of the next largest GCC state (Oman), five times the size of Iraq and twice the size of Egypt.

1.5.2 Economic

- Saudi Arabia produces about 10% of global oil production and accounts for around 25% of the world's known oil reserves.



- Saudi Aramco, the Kingdom's primary producer and exporter of crude oil and natural gas is the world's largest oil company with 56,000 employees in 50 countries.
- The Saudi economy almost doubled in size over the past four years to \$348 billion. Annual non-oil growth was 6.1% in 2007 (SAMBA, April 2008).
- Real GDP grew by 3.7% during 2007 compared to 4.2% in 2006 (SAMBA, April 2008).
- Oil prices rose to a record high of \$100 per barrel in March 2008 and are likely to hover around \$94 per barrel during 2009 (SAMBA, April 2008).
- Unemployment among Saudis is 12% (Ministry of Labor, Nov 2006).
- Saudi Arabia General Investment Authority (SAGIA) estimates that more than 255,000 jobs had been created in the Saudi market as a result of foreign investment including more than 69,000 jobs for Saudis.

1.5.3 Social

- Saudi Arabia is the birthplace of Islam and home to Islam's two holiest shrines in Mecca and Medina, and the king's official title is the Custodian of the Two Holy Mosques. Each year, 2 million Muslims perform the Hajj, or Great Pilgrimage to Makkah, one of the 'five pillars' of Islam.
- Major terrorist attacks in May and November 2003 spurred a strong ongoing campaign against domestic terrorism and extremism and something that the government has reportedly spent \$2.5 billion.
- Population of Saudi Arabia is at 23.68 million and is experiencing population growth of around 2.1%. This could mean a total population of nearly 36 million by 2020. Almost a half of all Saudis are under the age of 19.
- Saudi's estimated 7 million foreign expatriate population includes approximately 1.4 million Indians, 1 million Bangladeshis, 900 thousand Pakistanis, 800 thousand Filipinos, 750 thousand Egyptians, 250 thousand Palestinians, 150 thousand Lebanese, 130 thousand Sri Lankans, 40 thousand Eritreans, 35 thousand British and 30 thousand Americans.
- Major urban centers are the capital, Riyadh (5 million populations), Jeddah (3.4 million, city only) and Dammam (2 million populations). One third of Saudis live in rural areas far from urban centers.
- Unemployment is a top governmental priority and taken into account through the country's economic planning.

1.5.4 Technological adoption

- The Communications and Information Technology Commission (CITC) is the telecommunications regulator in the Kingdom of Saudi appointed via the Telecommunications Act in June 2001.
- CITC has licensed 42 firms to provide Internet services in the Saudi market, but only 18 of them are currently operating.
- 93.9% of Saudi households have satellite television, although 48.4% still regularly tune in to terrestrial television (Arab Advisors, January 2007). Satellite television receivers were officially banned by the government in 1994, but regulation has since relaxed.
- 34% of Saudi homes have a personal computer.
- Internet Penetration reached 26% of population accounting for 6.4 Million by 2007.

1.6 ICT Development Stages

Because of the growing role of information technology in the nations' economies, the government of the Kingdom of Saudi Arabia has given it top priority. During the past forty years, the IT sector witnessed drastic changes. When the computer was used for the first time in the year 1382H (1963), it was limited to very few applications in the civil governmental sector by the Public Statistics Department. By the early nineties H., information technology began to be used on a large scale by many government sectors. A new computer center was established and supplied with the necessary equipment. This stage was characterized by using huge computers that cost a lot. However, it began to draw the attention of the private sector, and a number of specialized institutions and companies began to focus on selling and providing maintenance to computers and developing systems and programming. IT applications spread rapidly to cover so many sectors for the purpose of enhancing productivity and advancing performance in the fields of finance, industry, commerce, education, government and health care.

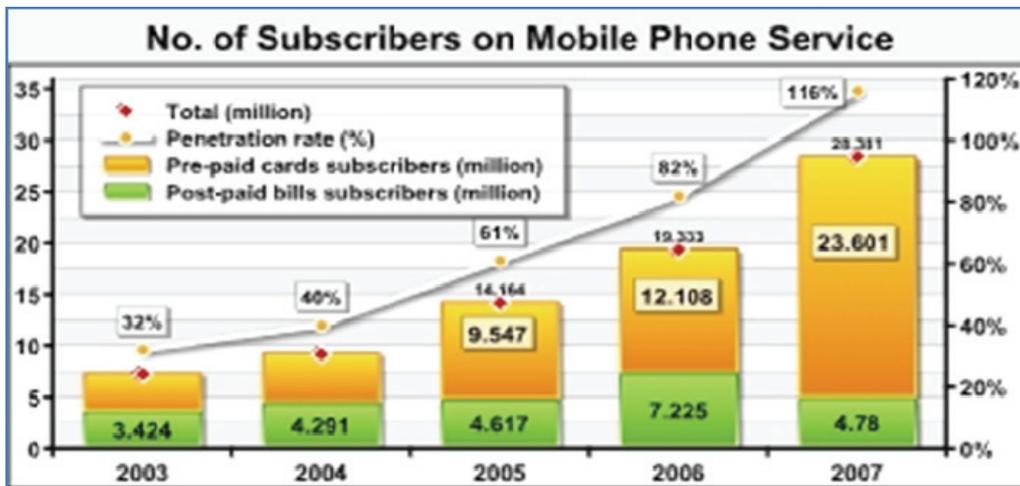
ARAMCO had the privilege of becoming the first private sector to use information technology in the kingdom, as early as the 70s of the past century. Nowadays, all Saudi companies, especially the great ones, such as ARAMCO, SABIC, SAUDI Telecom Company, Saudi Airlines, and Saudi banks, all use up to date IT and its applications. Statistics show that more than 80% of industrial companies use computers and their applications.



ICT Sector Evolution in Saudi Arabia

1.6.1 Mobile phones

Mobile phone services have developed remarkably during the past few years in term of penetration, the diversity of service and its price. Competition in mobile communications market has resulted in many positives, the most important of which is the rapid growth of penetration and the number of subscribers. In this respect, the penetration rate stood at 116% (28.4 million customers) by the end of 2007 compared to only 12% or 2.5 million subscribers in 2001. This represents an annual growth rate of around 46%. More than 83% of subscribers are holders of pre-paid cards as shown in the following diagram:



Notes:

- (1) Figures as per operators reports.
- (2) The number of subscribers increased significantly in the fourth quarter of 2007 due to addition of more than one million temporary subscribing pilgrims and visitors.

Competition in the mobile telecommunications market, which started in 2005, has resulted in major developments in terms of service offerings, quality of service, customer care, reduced prices and subscriber growth. The number of mobile subscribers has grown to around 28.4 million (116% penetration) by the end of 2007, up from 19.7 million in 2006 and only 2.5 million when the CITC was established in 2001.

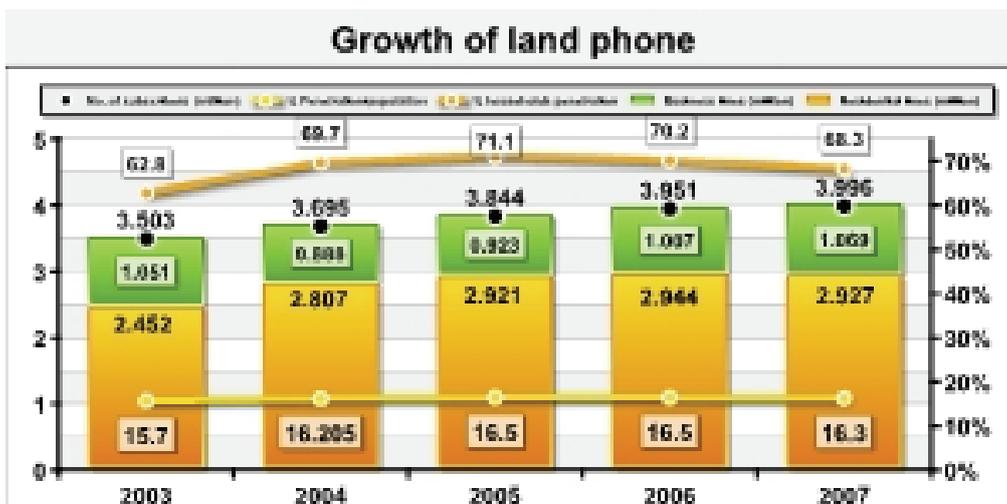
The cumulative average growth rate (CAGR) for the last six years amounted to around 46% annually. Prepaid subscribers constitute the majority (83%) of all subscribers which is in line with the trend in other similar markets around the world.

It should be pointed out that the subscriber numbers are based on data reported by the two mobile service providers. In order to have a standard unified definition of what is meant by a mobile subscriber, the CITC recently issued a decision to adopt a standard definition of “Active Mobile Subscribers” based on a 90-day activity rule. Mobile service providers are required to report their subscriber numbers to the CITC according to the new definition by the end of the First Quarter of 2008.

1.6.2 Land phones

By the end of 2007, the number of land phones in the Kingdom reached around 4 million. Residential lines represent more than 2.9 million (73%) with a penetration rate of 66.5 lines per 100 households (66.5%). This is the appropriate criterion for measuring the penetration rate of land phones, as one land phone in a house serves all family members (in case of mobile phones every family member may has his own phone). As for the penetration of land phone to population, it reached 16.3 lines per 100 persons (16.5%) by the end of 2007.

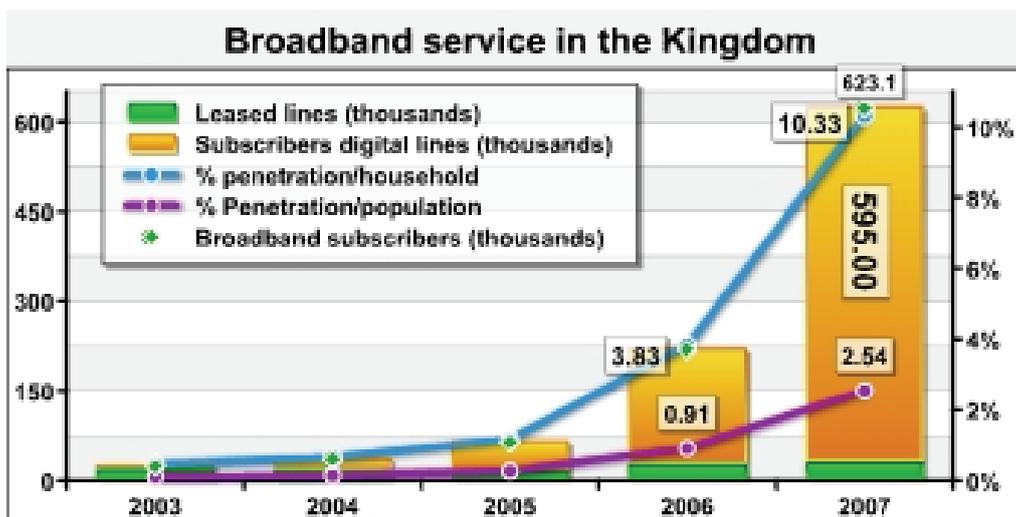
The following diagram shows the development of the penetration of land phones. It can be noticed that there is a low turnout for land phone service despite the availability of this service and the increasing number of lines installed at the exchanges. This is attributed to the fast penetration of mobile phone service, easy subscription and the gradual decrease of its costs. The shift from land phone service to mobile ones is a global phenomenon and can be seen in developed countries as well as some other countries with high penetration of mobile communications services.





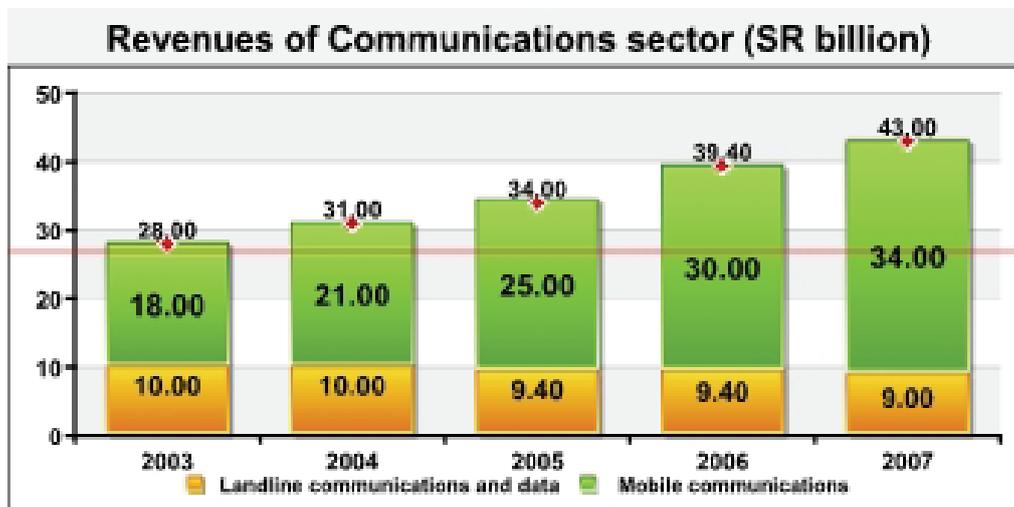
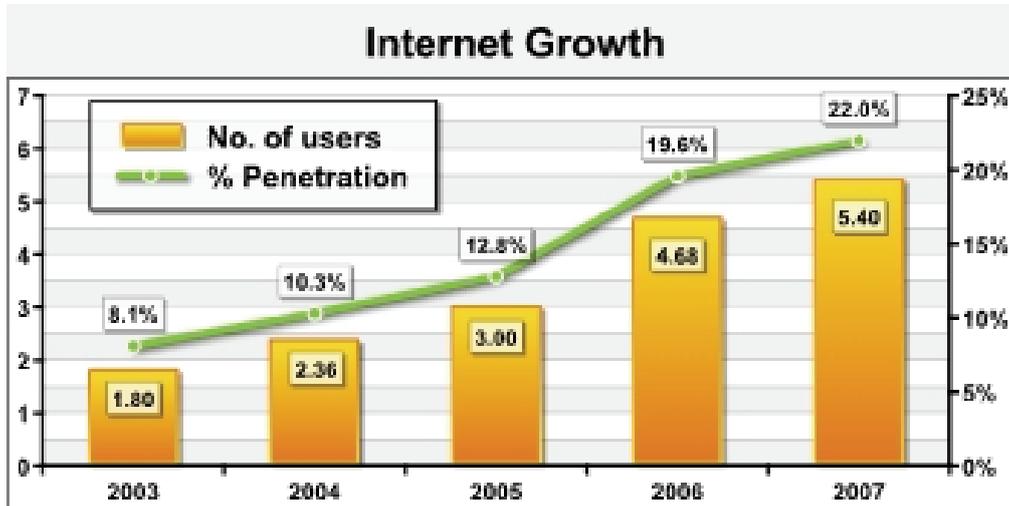
1.6.3 Broadband service

Broadband communications service has grown from 14,000 in 2001 to more than 623,000 by the end of 2007 with an annual growth rate of 90% during the past six years. Despite this growth, penetration rate still low compared to developed countries and other countries of conditions similar to the Kingdom. Penetration rate did not exceed 2.5% of population and 10.3% of households. There are significant growth opportunities for the spread of broadband communications service in the Kingdom with the opening of competition on land phone sector and new companies launching their services on a commercially-based concept. This represents one of the most important challenges facing C&IT sector in the coming few years.



1.6.4 Internet Service

The number of Internet users has increased from one million in 2001 to around 5.4 million by the end of 2007 with a penetration rate of 22% among population and an average annual growth rate of 32%. This growth is attributed to the increasing awareness on the benefit of the internet, the growth of broadband services and the decrease of the prices of computers sets and communications and Internet services.





SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Regulatory Framework

The CITC is the telecommunications regulator and information technology promoter in the Kingdom of Saudi Arabia. The Telecom Act (enacted in June 2001) and its Bylaw (issued in July 2002), provide the basis for the CITC's regulatory framework. The CITC Ordinance (issued in June 2001 and amended in July 2003) and the Rules of Procedures (2004) define CITC's mandate, functions, governance, financing, and detail of the steps service providers and the CITC need to follow for timely disposition of issues addressed to the CITC.

The CITC is currently applying a "technology neutral and service specific" licensing regime, which allows licensed service providers to offer specific services, under the terms and conditions of their licenses, utilizing technologies of their choice. The CITC is working to further liberalize the ICT market, increase competition in the mobile and the fixed services markets, encourage the rollout of competitive network infrastructures and offering of new services, and enable universal availability of advanced ICT services. To this end, the CITC continued to review its current regulatory frameworks and develop new ones.

In reviewing and developing the regulatory framework, the CITC continued its established practice of seeking comments from stakeholders and interested parties through public consultations and other means, and taking into account the responses received, the public interest and protection of the consumers. The specific regulatory framework documents published in 2007 (the associated Decisions are listed in the Appendices A and B) are as follows:

- Regulatory Framework for Short Message Codes Related to Value Added Services
- Temporary Controls on Regulating WLAN Internet Services using Wi-Fi Outside Buildings and Private Complexes
- Regulation for Import and Usage of ICT Equipments including Bluetooth
- Technical guidelines on Electromagnetic Radiation from radio Base Stations
- Technical rules for prevention of mobile handset thefts
- Definition of the "Active Mobile Subscriber"

The CITC Statutes as well as the published regulatory framework documents are available on the CITC's web site (www.citc.gov.sa).

On the IT front, the "e-Transaction Act" and the "e-Crime Act" were enacted, and issued by Royal Decrees, in March 2007. The two Acts, together with internet regulatory frameworks

are available on the internet service website (<http://internet.gov.sa>) managed by the CITC.

2.1.1 National Center for Digital Certification

The National Center for Digital Certification provides a complete system for managing the public key infrastructure (PKI) on which all electronic services, like e-Government, are based. "PKI" enables Internet users to perform all types of electronic transactions confidently and securely. Currently, arrangements are being made to move the National Center for Digital Certification from King Abdulaziz City for Science and Technology (KACST) to the e-Government program.

2.1.2 Telecom Act

The Communications Act was issued as per the supreme royal decree number (M/12) dated 12/3/1422H (4/6/2001), with the objective of regulating and restructuring the communications sector.

2.1.3 e-Transaction Act

The Electronic Transactions Act is available now as a draft project which is expected to be formally approved and issued in early 1426H (Early 2005). The objective of this regulation is to control and regulate electronic transactions and provide a legal framework that fulfills the following goals:

Establish legal regulations for electronic transactions and digital signatures so as to strengthen confidence in them and facilitate their use in the public and private sectors through reliable digital records.

Consolidate the use of electronic transactions at local and international levels so that they can be utilized in all fields such as commerce, medicine, education, e-Government, e-payment systems, and other applications.

Eliminate any obstacles that may hinder or delay the use of electronic transactions and digital signatures.

Reduce and limit abuse cases and potential fraud in electronic transactions and digital signatures, such as forging and embezzlement.



2.1.4 IT Criminal Laws

The project is designed to formulate a law that fights crimes consequent to abuse of IT, computer, and the internet. This could be carried out through establishment of a mechanism that limit incidence of such crimes. The law should define the crimes, assign punitive actions for each crime or violation, and determine the party with the jurisdiction to handle such abuses and enforce the punishments.

This way the law will be able to achieve the following:

- maintain information security;
- promote further increases in employment of computers and networks;
- safeguard intellectual rights of legal use of computers and networks; and
- Safeguard public interest, morals, and communal values.

The draft law was completed pending final approval expected in the second half of the year 1427H (2007).

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

3. Major e-Government Projects in year 2007

3.1 SaudiEDI

SaudiEDI was founded by the Public Investment Fund (PIF) as a trusted provider of high quality government services in Saudi Arabia that facilitates fast and transparent interactions among government agencies (G2G) and between government agencies and businesses (G2B), enabling better and faster information access, optimizing processes and improving efficiency of critical government services including but not limited to Government e-Trade and e-Procurement projects.

SaudiEDI immediate focus is to provide electronic services to automate the international trade cycle for the trading community in Saudi Arabia, through a suite of e-Trade services, known as the Saudi Arabia Nationwide Automated Matrix (SANAM).

SANAM is a suite of user-friendly e-Trade services customized for the Saudi Arabian community to enable Customs Brokers, Shipping Agents, Port Contractors, Importers and Exporters to complete critical trade declaration quickly and conveniently. Each of these import and export services results in significant savings in terms of time, money and resources for businesses and government agencies concerned.

3.2 Yesser

The e-Government Program - Yesser - translates the Saudi Government's keen interest in implementing the e-government concept. It is part of many initiatives and projects adopted by the government to achieve sustained growth and development in all aspects of life.

Yesser was launched with the following objectives:

- Raising the public sector's productivity and efficiency.
- Providing better and more easy-to-use services for individual and business customers.
- Increasing return on investment (ROI).
- Providing the required information in a timely and highly accurate fashion.

Yesser plays the role of enabling the implementation of e-government. It reduces, as much as possible, centralization in e-government implementation while ensuring the minimum level of coordination between government departments. The program's work methodology based on the following main principles:

- Principle 1: Unified Vision, priorities, standards and frameworks.
- Principle 2: Not only technology, but much more.
- Principle 3: Reduce centralization as much as possible.
- Principle 4: Develop once, use many times.

There are five components governing the overall initiative:

1. A Vision Statement, based on 10 subsidiary objectives. "By the end of 2010, everyone in the Kingdom will be able to enjoy – from anywhere and at any time – world-class government services offered in a seamless, user-friendly and secure way by utilizing a variety of electronic means."
2. An e-services component



3. A national application component to facilitate integration
4. An e-infrastructure component

An organization component focusing on governance and change management issues.

3.3 SADAD

SADAD Payment System (SADAD) was established by the Saudi Arabian Monetary Agency (SAMA) to be the national Electronic Bill Presentment and Payment (EBPP) service provider for the Kingdom of Saudi Arabia (KSA). The core mandate for SADAD is to facilitate and streamline bill payment transactions of end consumers through all channels of the Kingdom's Banks. SADAD was launched on October 3rd, 2004.

3.4 SIMIS (Social Insurance Management Information System)

The General Organization for Social Insurance (GOSI) has launched its new Social Insurance Management and Information System (SIMIS). It is considered a distinguished shift in the field of e-government applications in the Middle East. SIMIS is designed to serve all those who have interests in dealing with GOSI's scheme. SIMIS allows some government agencies to interact and exchange information with GOSI, in addition to enabling establishments and employers to perform all their business through it; they can register, exclude, change wages and submit payment of contributions of their workers. They can also review their establishment accounts with GOSI. Now, contributors can inquire about their records, know about the sequence of their services and check the correctness of their contributions with GOSI, along with other services that GOSI usually provides. SIMIS is considered as a virtual field office for GOSI; through it all business can be conducted as a regular field office. Hospitals may check the coverage of injured persons under the Occupational Hazards Branch to provide them with medical care services as fast as possible without the need to return to any field office. Moreover, SIMIS was developed to support auto-exchange of information (B2B) between establishments and GOSI to transfer data directly from GOSI's database to those establishments database and vice versa, and processing it without any human interference in the process.

SECTION IV – Other advanced applications - IT - enabled Service (ITeS)

4. Major ICT Activities in year 2007

4.1 ICT Sector Liberalization

For executing its tasks, the Ministry of Communications and Information Technology (MCIT) focuses on plans, policies, programs, projects and initiatives that assist in developing the communications and information technology (C&IT) sector, stimulating the growth and spreading the use of this sector at all life aspects. This aims at the realization of sustainable development, support the process of transformation to information society, increase the efficiency, raise productivity at both public and private sectors, improve the level of government services offered to citizens and expatriates and business sector and consequently boost the economic growth, increase GDP, raise awareness at the government sector in particular and in the society in general about the importance of information technology and its role in development and advancement and participation in relevant local and international functions. As part of its drive to fully liberalize the ICT market and attract more investment to the sector, the CITC completed a transparent licensing process leading to the award of the 3rd mobile services license, and the qualification of three new companies for award of fixed services licenses.

4.1.1 3rd Mobile License

In response to the Request for Applications (RFA) issued by the Commission in 2006, nine applications for the 3rd mobile license were submitted by 9 consortia which included major international mobile operators as investing and operating partners.

Upon evaluation of the technical proposals in accordance with a predetermined methodology, the CITC Board approved the qualification of 7 of the Applicants and authorized the opening of the financial proposals of the qualified Applicants. These were opened in a public ceremony, attended by representatives of the qualified Applicants.

Saudi MTC was found to have submitted the highest financial bid. Based on the CITC Board recommendation, the Council of Ministers approved the award of the 3rd License for provision of mobile telecommunication services to Saudi MTC.

4.1.2 Fixed Telecommunications Service Licenses

The CITC received 10 applications for fixed facility based licenses in response to the



RFA it had previously issued. All the applications were submitted by consortia which included major international service providers as investing and operating partners.

The Technical proposals of the Applicants were evaluated by the CITC following a predetermined and well defined methodology. The Board approved the evaluation results and announced the qualification of 3 of the applicants for the next phase of the selection process. The Financial bids submitted by the two qualified applicants who applied for frequency spectrum were opened in a public ceremony attended by representatives of the qualified Applicants. Frequencies were assigned in accordance with availability of requested frequencies, and predetermined procedures published in the RFA.

The CITC Board decided to recommend to the Council of Ministers the award of three new licenses for provision of fixed telecommunication services to the 3 qualified Applicants: Optical Communications (Verizon of USA), Mutakamilah (PCCW of Hong Kong), and Atheeb (Batelco of Bahrain). Upon approval of the Council of Ministers (expected in early 2008), the CITC will proceed to follow up the rest of the procedural steps for issuances of the three licenses.

4.2 National Frequency Plan

The National Frequency Plan (NFP), developed by the Commission, defines categories of users and frequency allocation tables for different services and users. The final NFP proposal was approved by the CITC Board, and was then submitted to the Council of Ministers for final approval, which is expected in 2008.

4.3 Licenses Issued

In line with its strategy of increasing competition and liberalizing the ICT market, the CITC issued 71 new licenses during the year, raising the total number of issued licenses to 296, by the end of 2007.

4.4 Reference Interconnection Offer (RIO)

Based on CITC's earlier Decision in 2006 approving the modified Reference Interconnection Offer (RIO) of the Saudi Telecommunications Company's (STC) and requiring STC to offer specific additional services and file a revised RIO (3rd version), STC submitted a revised RIO document. The CITC held a public consultation in order to obtain the views of stakeholders and also allowed STC the opportunity to respond to the stakeholder comments.

The CITC reviewed all the responses, conducted an analysis based on its benchmarking of best practice, and identified a number of required improvements to be incorporated in a new RIO submittal by STC for CITC's approval in 2008.

4.5 Reference Offer for Data Access (RODA)

The CITC approved STC's Reference Offer for Data Access (RODA), after considering a number of revisions and improvements to the previously submitted drafts, as required by the CITC and resulting from public consultation process. The CITC Decision approving the RODA (number 178/1428) is available on the CITC web site. The CITC will undertake a regulatory process for a periodic updates of the RODA.

4.6 Accounting Separation

The main goal of Accounting Separation is to ensure that the dominant service provider does not abuse its position of market dominance by engaging in any form of anti-competitive behavior, such as cross-subsidization between various business units. In response to the CITC Decision, STC submitted financial statements on a separated business unit basis for the year 2006. After requiring validation by an independent auditor, the Commission accepted the 2006 separated accounts. For 2007 and beyond, STC is to provide detailed separated financial accounts with an "Unqualified Opinion" from an independent auditor as required by the CITC.

4.7 Long Run Incremental Costing (LRIC)

The CITC determined that wholesale prices have be cost-based, and decided to implement LRIC as a best practice approach for determining wholesale services costs.

During the year, the CITC completed a detailed international benchmarking study of methodologies used for implementing LRIC and carried out a public consultation process on the subject as well as on development of methodologies for the top-down and bottom-up models. The CITC then finalized LRIC methodology guidelines based on its analysis of the responses to the public consultation and the benchmarking study. The LRIC Guidelines will be submitted to the CITC Board for approval in the first quarter of 2008.



4.8 Terms of Service

In its efforts to safeguard public interest, protect consumer rights and define the rights, and obligations of both clients and service providers, the CITC developed draft documents of “Terms & Conditions of Service” for mobile, fixed, data, and internet services. A public consultation was launched together with directed request for comments from concerned parties including the Shura Council, other governmental entities, academic institutions, private sector companies, and the public. The responses received are being studied, and the finalized documents will be issued in the first half of 2008.

4.9 Tariff Regulation

During the year, the CITC issued an interim tariff approvals procedure to regulate service provider tariffs pending preparation of a final procedure, after completion of the CITC’s study on market definition and dominance, and implementation of the LRIC methodology (Section 4.7).

In accordance with its statutes, the CITC continued to regulate the service tariffs of STC, the current dominant service provider, and issued the necessary decisions.

4.10 Universal Service and Universal Access (US/UA)

In accordance with “the Universal Access and Universal Service Policy” approved in 2006, (the “Policy”), the CITC Board issued a decision to establish the Universal Service Fund (USF), approved the USF budget for 2008, and formed a Board Executive USF Committee chaired by the CITC Governor.

The newly established Fund prepared draft documents covering: a) USF Executive Rules and Procedures, b) USF Administrative Rules c) USF frame Agreements, and d) Request for Proposals (RFP) to award a consulting contract for USF projects. It also initiated the development of the USF strategic and operational plans and pilot projects.

4.11 National Numbering Plan

In 2007, the CITC processed allocation requests for number ranges from service providers; allocated access codes for key public agencies; coordinated with ITU on issues relating to international point codes; and to changes taking place in other countries’ numbering plans.

Currently a project is underway to update the National Numbering Plan and the short code regulations for value-added services on mobile short message service (VAS-SMSSC).

4.12 Number Portability (NP)

The CITC is preparing NP guidelines for fixed services which will encourage competition between fixed facility based providers, by removing a major barrier for subscribers to transfer their service from one provider to another. The Commission is also updating the MNP guidelines to merge them into one comprehensive NP guidelines for both fixed and mobile.

In 2007, the CITC continued to monitor the Mobile Number Portability Clearinghouse database operation, analyzed reports on ported mobile numbers, and enhanced the procedures for accommodating the exchange of final bills, and for disconnecting numbers with non-paid bills.

4.13 ICT Equipment

In addition to the 85 technical specifications for ICT equipment published earlier, the CITC published additional specifications in 2007 for WiMAX subscriber equipment, base stations and ancillary equipment. The CITC periodically updates these specifications based on the latest technologies and technical standards.

Over 4800 equipment type approval requests were handled. In addition, the CITC dealt with over 1500 queries from domestic and foreign companies regarding equipment technical standards. The CITC led a working group responsible for preparing a scheme for ICT equipment approval for Arab Regulators Network (AREGNET). The CITC prepared and submitted the final document of the equipment approval scheme which was then approved in the General Assembly of AREGNET held in Abu Dhabi in March 2007.

4.14 Quality of Service (QoS)

In 2007, the CITC conducted a benchmarking study and then prepared a draft document outlining QoS general principles, and a proposal for a QoS scheme. In addition, the Commission continued its follow up of QoS reports submitted periodically by STC, as the dominant service provider, analyzing the reports and then coordinating with the service provider to enhance its QoS performance.



4.15 Regulation and Technical Guidelines

During the year, the CITC prepared and issued several regulatory and technical guidelines as detailed in Section 2.2. The CITC also initiated the development of other guidelines such as:

- Regulatory Framework and associated guidelines for the right of way (ROW) and site sharing for outside plant network and
- Guidelines for marketing and selling of mobile pre-paid cards

4.16 Measurement of RF from Wireless Base Stations

In 2007, the CITC organized a workshop on electromagnetic radiation; prepared a document on methods and procedures for measurement of electromagnetic radiations from wireless base stations; and worked with King Saud University in a survey campaign to perform field measurements of wireless base stations in the Central Region. The Commission plans to carry out similar field measurement campaigns in other Regions in cooperation with leading academic and research institutions in these Regions.

4.17 Spectrum Management

In addition to continuing its activities in spectrum management (SM), the CITC commissioned a new automated SM system to facilitate the analysis and planning of frequency assignments in the Kingdom. The CITC also completed a project to review and document "SM Methods and Procedures".

4.18 Domain Name Registration Service

Saudi Network Information Center (SaudiNIC) at CITC is responsible for the administration of the domain name space for the country code (ccTLD) of Saudi Arabia (".SA"). The mission of SaudiNIC is to provide an equitable, just and competent technical and administrative management of domain name registrations.

During the year, the CITC registered 12440 domain names and modified 1600 requests; provided filtering services to licensed data service providers; enhanced the registration websites with some added tools; developed browser plug-ins to support Arabic domain names; led committees for the "Arabic domain name pilot project" at international events; participated in the evaluation of IDN test; and published a technical report on the evaluation of test domain

names.

4.19 National Internet Exchange

The main objectives of establishing a “National Internet Exchange” are to switch local traffic among the Internet Service Providers (ISPs) and the Data Services Providers; to maintain the exchange of national data within the country; to enhance the reliability, continuity, and speed of transmission; to support national internet site hosting; to improve the quality of service; as well as to reduce overhead costs; and to increase security in the national Internet service.

During the year, the CITC reviewed the current situation including defining CITC’s responsibilities; conducted a benchmark study; developed a strategy and an action plan; and issued an RFP for consulting services.

4.20 Internet Service Development Strategy

The main objectives of the Internet Service Development Strategy are to upgrade the quality of Internet service in the Kingdom and to promote new services resulting in higher penetration rates. During the year, the CITC reviewed the current situation for Public Internet Services in Saudi Arabia; reviewed CITC’s present Internet roles and responsibilities (domain name registration, internet filtering and National Internet Exchange); developed the Internet Technology & Services Outlook; conducted benchmarking studies; and carried out Gap Analysis. The CITC is currently developing the Internet Services Strategy and Roadmap, which is expected to be completed in 2008.

4.21 Information Technology (IT) Strategic Plan for CITC

This project aims to develop a comprehensive strategy for CITC’s IT initiatives in the Kingdom. During the year, the CITC completed an IT development benchmark study; interviewed stakeholders in the public and private sectors to collect their IT related views and recommendations; identified over fifteen projects and initiatives related to access infrastructure, local digital content, IT-related skills, and IT awareness; and developed a process to prioritize the key projects. The IT Strategic Plan is to be finalized in 2008, with major thrusts towards increasing awareness and usage of IT, its local content and broadband infrastructure.



4.22 Smart City Initiative

The CITC continued to develop its Smart City initiative providing a framework for the planning and execution of the smart city initiative Kingdom-wide; organized the Smart Cities Forum in association with Riyadh Municipality and the Arriyadh Development Authority (ADA); and led the launch of the smart street pilot project in Riyadh. In addition, the CITC launched the free Wifi hotspot services in Mina (Makkah Area) during the 2007 Hajj season.

4.23 National Center for Information Security (CERT)

The national center for information security awareness called the Saudi Arabian -Computer Emergency Response Team (CERT-SA) was established in 2006; with the objectives of enhancing security awareness, and playing a leading role in management, detection, prevention, coordination and response to information security incidents at the national level.

During 2007, the CERT-SA continued to coordinate with CERT centers in other countries; developed and issued a number of security awareness leaflets; and prepared an "Information Security Handbook" to be published in 2008.

4.24 SPAM

Electronic SPAM messages – the digital descendants of unsolicited paper mail advertisements and marketing phone calls present major nuisance for ICT users, and come in several forms such as e-mail, cell phone text, and fax messages. In order to increase confidence and security of ICT usage, the Anti-SPAM project was launched, with the objectives of developing a regulatory framework, increasing the awareness of the SPAM problems, developing measures to deal with SPAM.

During the year, the CITC assessed the current situation; conducted international benchmarking; developed draft Anti-Spam Policy Framework; developed draft Anti-SPAM awareness guidelines; and studied technical aspects of dealing with SPAM.

4.25 Consumer Complaints and Violations

In accordance with the CITC statues requiring the Commission to protect ICT consumer rights, the CITC handled over 3200 complaints during the year, and resolved them successfully. In order to increase the CITC's efficiency and effectiveness in processing

complaints, a draft procedures document for handling complaints was developed and will be finalized next year.

In addition, the CITC Violations Committee considered 1748 cases of reported violations of the Telecommunications Act, and issued appropriate decisions, in accordance with the applicable statutes.

4.26 Media Activity

The CITC continued its active role of increasing public awareness, and proactive engagement with the press and media. To this end, the CITC undertook extensive marketing media activities including press conferences, press releases, announcements, and interviews with the mass media (TV and radio) and the press. In addition, the Commission issues an electronic daily Press Monitor distributed daily to all CITC staff; the daily monitor tracks press coverage of the CITC and the ICT related news, with periodic analysis of CITC media coverage and public image.

4.27 Local, Regional and International Participation

The CITC has participated in many Local, Regional and International meetings and conferences, including ICT related committees of the Gulf Cooperation Council (GCC) and the League of Arab States (LAS); meetings of the Arab Regulatory Network (AREGNET), the Global Symposium for Regulators (GSR 2007), the World Radio Conference 2007 (WRC07), and other ITU meetings.

In addition, the CITC was the main Speaker in a number of local and international conferences such as the meetings of the Arab Team for Domain Names in Cairo, Regional Seminar on Internet Protocol (VoIP) in Algiers, the Euromoney Saudi Arabia Conference in Riyadh, the ITU workshop on "Competencies for Competitiveness" in Cairo, the Saudi Telecommunications Society in Riyadh, VoIP World MENA 2007 in Dubai, the Saudi Investment Forum in Dammam, and the International Symposium on Computers & Arabic Language in Riyadh.

4.28 Telecommunication Services Supervision during Hajj 2007

The CITC continued to follow up on the performance of licensed service providers. The CITC in cooperation with other Government departments worked to ensure provision of the



best ICT services to pilgrims.

For the Hajj 2007, the CITC carried out a spectrum monitoring around the Holy Mosque and Hajj areas to ensure there was no harmful interference; conducted quality of service (QoS) measurements for mobile services; monitored the fixed, pay phone, and internet services; supervised the launch of a free WiFi internet service trial in Mina; conducted field visits to service providers and reviewed the performance of their networks; conducted user surveys among pilgrims; and responded to user complaints with timely action to address them.

SECTION V – References

References

- (1) Communication & Information Technology Commotion (CITC) web site :
www.citc.gov.sa
- (2) SADAD web site: www.sadad.gov.sa
- (3) Saudi Arabia General Investments Authority (SAGIA) web site : www.sagia.gov.sa
- (4) Saudi Arabia Monitory Agency (SAMA) web site : www.sama.gov.sa
- (5) Saudi Arabia National Web Gate way web site: www.Saudi.gov.sa
- (6) Saudi Electronic Data Interchange (SaudiEDI) Project web site: www.saudiedi.com
- (7) General Organization for Social Insurance (GOSI) web site: www.gosi.gov.sa
- (8) Ministry Of Communications & Information Technology (MCIT) web site :
www.mcit.gov.sa

THAILAND Progress Report



Ministry of Information and Communication Technology



2008 Members Progress Report : THAILAND

SECTION I – GENERAL CONDITION UPDATE

1.1 Legal Framework

There has been a remarkable progress in the development of legal framework necessary to support the uptake of e-Commerce and e-Government in Thailand. Since the Electronic Transactions Act with an incorporation of Electronic Signature effectively enacted in 2002, the Electronic Transaction Commission chaired by Minister of Information and Communication Technology was founded to lay down policies and prescribe rules to promote the electronic transactions and monitor the business operation of electronic transactions. The Commission also includes the duties on promoting and monitoring the development of technology which is constantly changing, so that the reliable standards can be achieved, in addition to give an advice to resolve problems and obstacles in order to promote the use of electronic transactions domestically and internationally.

Under Electronic Transaction Commission, several initiatives that provide critical foundation for the development of e-Government and e-Commerce including, the effective enactment of Computer-Related Crime Act, The Royal Decree to regulate e-business service relating to e-transaction and The Royal Decree on Electronic Transaction in Public Sector, have been carried out.

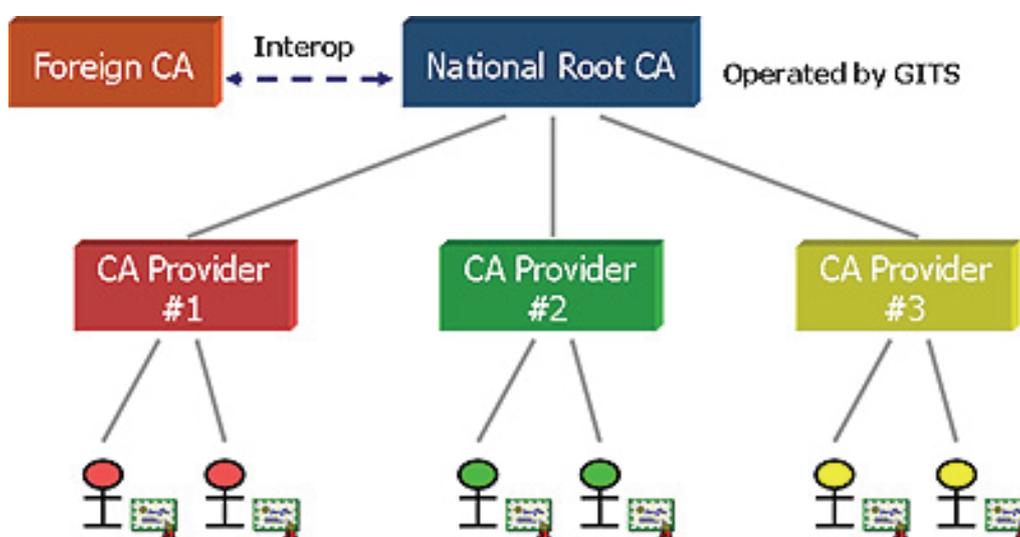
1.2 The Establishment of National Root CA

At Present, Electronic Transaction is the key form of rapid information exchange. It has played a significant role in exchanging information between parties in both government and private sector. The utilization of electronic transaction can be witnesses through a number of on-line business transactions, online stock exchange, and so forth.

However, the Internet threats which may occur during the transaction could harm the information, as a result, damaged the business and government operation. The Public Key Infrastructure (PKI), an emerging technology to protect information from intruders by making data confidential and to authenticate person, is a solution to this kind of threats.

The Certification Authority (CA) is a trusted third party that issue certificates to confirm and authenticate the person from real world to cyber world. However, certificate users may face some communication problems if one party using certificates from a CA provider that different from others parties so it could not be recognized.

Therefore, the Trust Model System has been adopted in order to solve this issue. Each CA provider will be certified by other high-level CA in a hierarchical form, and the top-most CA provider is called the Root CA. Furthermore, The Electronic Transaction Commissions who acts and regulates electronic transaction policies in Thailand has agreed that the hierarchical trust model is suitable for Thailand.



Trust Model in Thailand

(Source : Ministry of Information and Communication Technology)

National Root CA (NRCA) is aimed to interoperable between certificates issued by different CA providers, promote reliability, and reduce complexity for electronic transactions in both domestic and international domain.

NRCA can be assumed as a critical infrastructure that urgently needs to develop. Currently, NRCA is set up by the Government Information Technology Services (GITS), which have been appointed by the Ministry of Information and Communication (MICT), to operate this project.



SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Thailand e-Government Interoperability Framework (TH e-GIF)

In response to the government's directive in promoting cost-efficient exchange of information and linked-up services between applications of different platforms for citizens, Ministry of Information and Communication Technology (MICT) has completed the preparation of Thailand e-Government Interoperability Framework (TH e-GIF). The framework aims to provide contractors commissioned to develop software solutions for government agencies with a set of guidelines that forms a basis of interoperability among applications in respect to process, data, and technical communication protocol.

Thailand e-Government Interoperability Framework comprises of two major parts. While the first part deals with managerial aspect of applications integration and development, the second part provides a set of common rules that guides different phases of application development from the elicitation business requirements in terms of process and information to the derivation of XML Schema from information model. The common rules are based on internationally-accepted standards. They include:

- UN/CEFACT's Modeling Methodology for an analysis and modeling of process and information requirements
- UN/CEFACT Recommendation No. 34 on Data Rationalization and Standardization for International trade as a guideline for aligning data elements used within and across information domain
- UN/CEFACT Core Components Technical Specification (ISO 15000-5) for the construction of information model
- UN/CEFACT XML Naming and Design Rules for transforming CCTS-based information model to XML schema

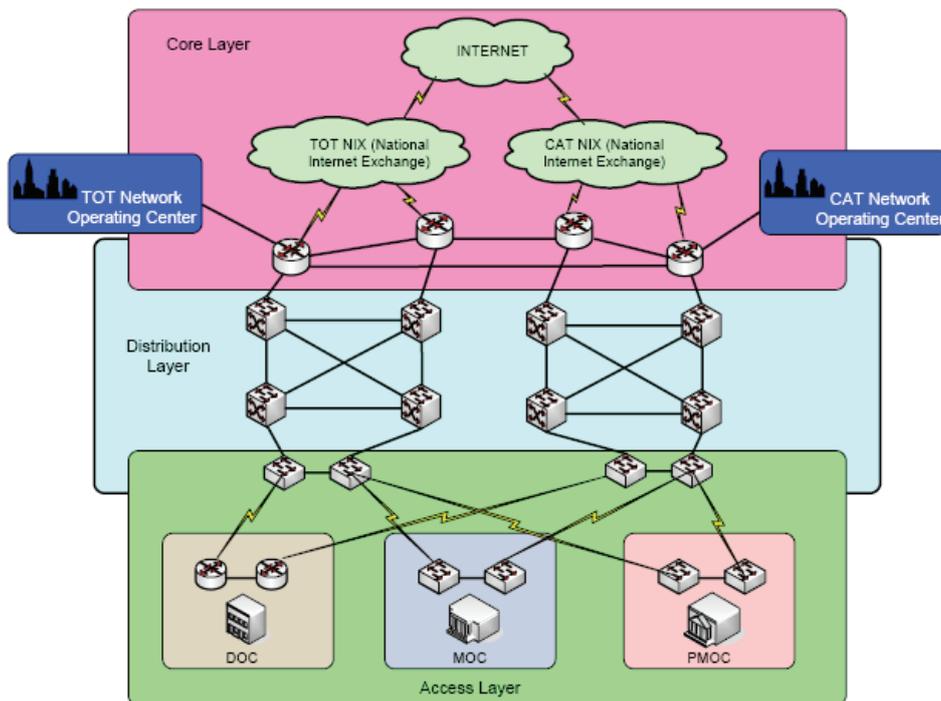
Technical specifications including communication protocol and security measure required to ensure secure and interoperable exchange of information as well as organizational mechanisms for the management of Thailand e-Government Interoperability Standard have also been attached to the latter part.

Since TH e-GIF has been launched, MICT had initiated the electronic document transaction using cross platform interconnection system as a pilot task based on TH e-GIF standard to facilitate the governmental business. At present, MICT has developed TH e-GIF standard in many categories e.g. Public Health, Labour, Commerce etc.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

3.1 Government Information Network (GIN)

Thailand by the Ministry of Information and Communication Technology (MICT) is in the process of developing the Government Information Network (GIN). GIN intends to integrate the information network of all government agencies to the Ministerial Operation Centre (MOC) and Departmental Operation Centre (DOC), which will be linked to Prime Minister's Operation Centre (PMOC). With GIN, government's data and information can be managed more effectively and lead to the efficient decision making of Prime Minister, moreover GIN will also the connective network among all government agencies for deliver the e-Government services to the citizens.



GIN's Conceptual Network Architecture

(Source : Ministry of Information and Communication Technology)

This highly secured and reliable network has been developed using a cutting edge technology that can support several information formats. The service coverage of the network will be broadened throughout Thailand. At present, 274 offices and agencies have been connected to GIN and the network is being expanded to have a nationwide coverage.



3.2 The Development of e-Government in Agricultural Sector

Thailand is one of the leading agricultural countries in the world. However, the competition within this sector is highly intense due to the other players in the market has produced and offered not only the same but also substantial products to the consumer. Some countries in which their economy rely on agricultural product has massively invested on food science and technology to help them become world leading exporter in agricultural products. Today, people are more concern about the agriculture produces and how they can be used not only for personal consumption but also for the replacement of fossil fuel. Therefore, people in agricultural sector must prepare themselves and be ready for the changing situation. Information and Communication Technology can be used as a tool in assisting farmers, producers, government agencies, and other stakeholders to prepare and be able to adopt themselves in order to keep pace with the competitive world by providing essential information such as taking right amount of food into market and so forth.

One of the key elements under the electronic government (e-Government) flagship conducted by the Ministry of Information and Communication Technology (MICT) is to launch an initiative to develop Information Technology program for agricultural sector.



e-Agriculture Website

(Source : Ministry of Information and Communication Technology)

e-Agriculture is the integrated project trying to build a database that collects enormous amounts of data from stakeholders such as various government agencies namely; Ministry of Agriculture and Cooperatives, Ministry of Information and Communication Technology, Ministry of Foreign Affairs, Ministry of Commerce, local wisdom, marketplaces, farmers' fields, and others. Course of action is, first, setting up the proof of concept and then develop web prototype covering useful information for all stakeholders.

3.3 Thailand Single Window e-Logistics

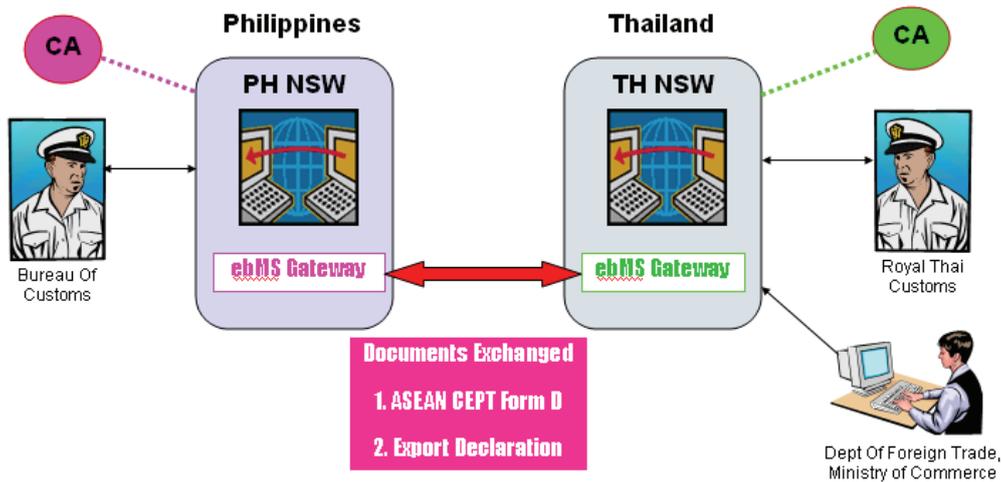
Recognized as a means to promote trade efficiency and national competitiveness, Single Window e-Logistics has been prioritized as one of the national agenda since 2003. Several projects have been initiated and implemented to affirm Thailand's commitment in accomplishing the ASEAN Agreement and Protocol to Establish and Implement ASEAN Single Window by 2008.

3.3.1 Royal Thai Customs

Royal Thai Customs was designated by the Cabinet as a lead agency responsible for coordinating with relevant public and private agencies to ensure the establishment of National Single Window and with other stakeholders in ASEAN to make possible a virtual environment for ASEAN Single Window.

As an organizational mechanism to push forward the development of National Single Window, Royal Thai Customs formed a special working group consisting of representatives from controlling government agencies, port/airport operators, banks and, IT service providers. Two sub-working groups have been operating under this special working group. While one works on the streamlining of business process and the alignment of data requirements, another works on technical communication protocol as well as related security issue.

The integration of license/permit and customs declaration information is a current area of emphasis. Different phases of implementation were defined according to organizational and technical readiness of participating agencies. The exchange of electronic messages will be based on HTTPS protocol through ebMS 2.0-compliant ebXML Message Handler (MSH). To ensure secure transactions, security module with an incorporation of digital signature will be implemented. Respective data requirements have already been identified. Relevant XML schemas have also been designed and developed.



Conceptual Framework of Documents Exchange between Thailand and the Philippines

(Source : Royal Thai Customs)

Under ASEAN Single Window framework, Royal Thai Customs in collaboration with Department of Foreign Trade and the Philippines' Bureau of Customs initiated a pathfinder project to study the feasibility of information exchange using an electronic message handler that was compliant with ebMS 2.0 specifications. Two messages in agreed XML format including Customs Declaration and Preferential Certificate of Origin for Intra-ASEAN Trade (ASEAN CEPT Form D) were successfully exchanged and integrated with respective back-end systems.

Besides driving the establishment of interoperable Single Window, Royal Thai Customs has been working to migrate Customs automation system for import and export cargo processing from EDI to XML. The newly developed e-Export system facilitates the administration of export procedure from cargo declaration to cargo clearance. EDI service for export cargo processing has already been cut off since July 1, 2007.

3.3.2 Ministry of Information and Communication Technology

Ministry of Information and Communication Technology (MICT) has commissioned the study of possible investment and operational models for Thailand's Single Window e-Logistics. The model is based on the framework put forward in Technical Guide of ASEAN Single

Window and National Single Windows Implementation. Since the term of reference for National Single Window development delivered, a sound understanding of information flow along export and import process is essential. The process and information flow of exporting and importing pre-defined products are being captured, modeled and analyzed using UN/CEFACT's Modeling Methodology.

As the result of the aforesaid study, MICT has funded the budget to the related agencies for developing the integrated back-end application, in order to support and accelerate Thailand's Single Window e-Logistics.

3.3.3 Ministry of Transport

Working towards National Integrated Single Window e-Logistics, Ministry of Transport recognizes the need to improve its administration of procedural and documentary requirements to facilitate international transportation of goods. This ongoing 1-year project covers:

- The simplification of transport-related processes
- The harmonization of data definitions and regulatory/business names against those provided in WCO Data Set and United Nations Trade Data Elements Directory to establish Transport Standardized Data Set
- The development of information model for relevant electronic messages based on UNEDocs and XML schema according to UN/CEFACT XML Naming and Design Rules
- The pilot implementation of Transport Single Window e-Logistics
- The development of 3-year Information Technology Implementation Plan for government agencies under the administration of Minister of Transport including Marine Department, Department of Land Transport, and Department of Civil Aviation

3.3.4 Other Government Agencies

Several government agencies under the auspices of Ministry of Agriculture and Cooperatives, Ministry of Commerce, and Ministry of Industry are now offering an online service for export/import license/permit/certificate application.



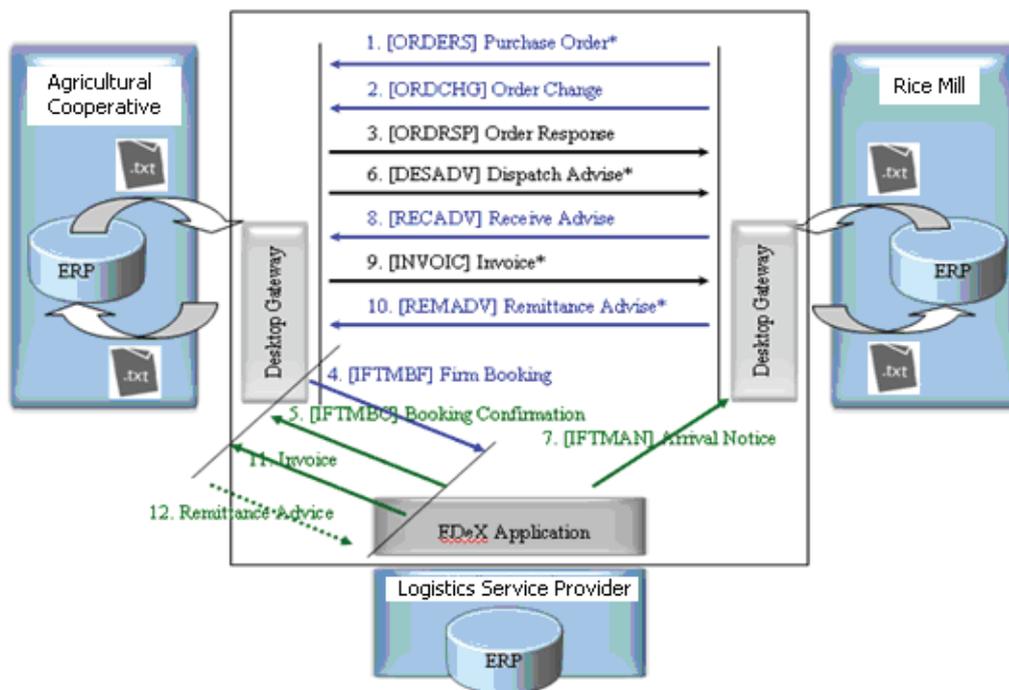
Government Agencies	Examples of Online Application
Department of Livestock Development	<ul style="list-style-type: none">- Health Certificate- License for import, export, pass animals and/or animal remains through Thailand
Department of Fisheries	<ul style="list-style-type: none">- Health Certificate
Department of Foreign Trade	<ul style="list-style-type: none">- Certificate of Origin- Certificate of Origin with Preferential Treatment- Import and export license of general and some specific cargo for commercial and non-commercial purpose
Department of Export Promotion	<ul style="list-style-type: none">- One-Stop Service (physical location) for export-related certifications- Implementation of 2007-2008 plan on Single Window Entry development with some budget allocated to support IT development in other government agencies
Department of Industrial Works	<ul style="list-style-type: none">- Import and export license of hazardous substances

3.4 ERP/Logistics Development for Hom Mali Rice: RFID Based Application

Since 2006, the Software Industry Promotion Agency (SIPA) incorporate with several organizations conducted several pilot projects to showcase the use of ICT to facilitate information exchange between a rice mill, an agricultural cooperative and a logistics service

provider, and thus improve efficiency of logistics processes for Hom Mali Rice (Thai jasmine rice) in northeastern region.

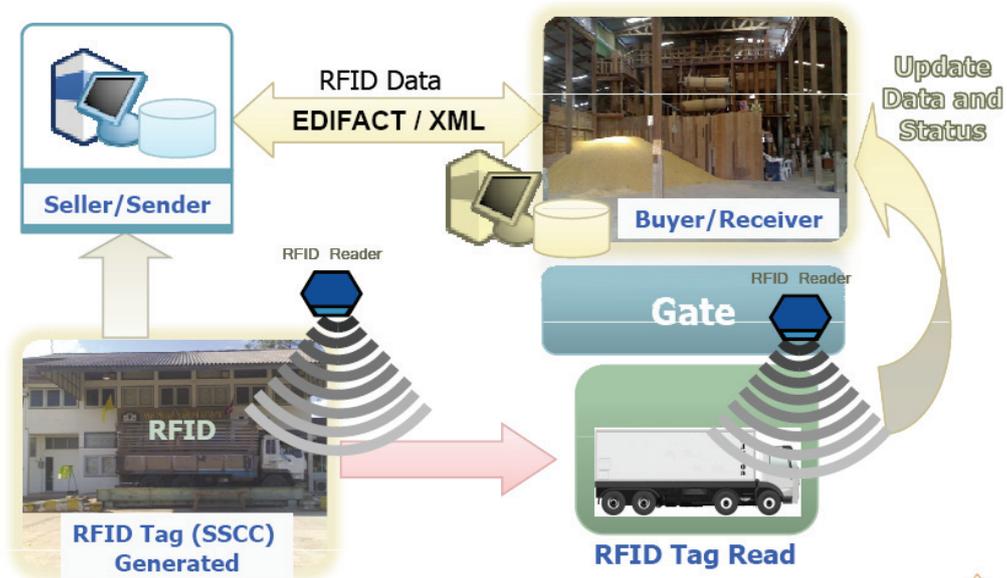
In order to enhance the ERP/Logistics Development for Hom Mali Rice Project, SIPA is being developed a prototype based on radio-frequency identification (RFID) to support ERP and logistics development of the Hom Mali rice which will be used between agricultural cooperatives, the Bank of Agricultural Cooperatives as the origin of the supply chain, and the Agricultural Cooperatives Community's mill, where the supply chain ends.



Conceptual Model of ERP/Logistics for Thai Jasmine Rice Showcase

(Source : Software Industry Promotion Agency)

The project will apply about 500 RFID tags for the RFID-based applications, which will contain information about the origin of the supply chain such as dispatch date, weight and truck number. The rice truck will be tagged at the time of loading. When the truck reaches the rice mill - its destination - the RFID reader at the mill will scan the information and confirm the receipt of the rice to the point of origin through a network.



(Source : Software Industry Promotion Agency)

This project aims to utilize RFID technology for developing logistics infrastructure as per international standards. Its hopes to improve supply-chain management of Hom Mali rice for the Roi-Kaen Sarn, the northeastern provinces cluster. The prototype will also be tested on other agricultural products such as tapioca. These will prepare traders to be more competitive in the global market.

Viet Nam Progress Report



Ministry of Industry and Trade (MOIT)
Viet Nam E-Commerce and Information
Technology Agency (VECITA)



2008 Members Progress Report : Viet Nam

SECTION I – GENERAL CONDITION UPDATE

1.1. Brief on the E-transaction Law and the Masterplan for E-commerce Development in the 2006 – 2010 Period

Since 2005, Transaction Law was approved by Vietnam National Assembly and the Master Plan on E-commerce Development in the 2006-2010 Period was signed by the Vietnam Prime Minister (promulgated under Decision No. 222/2005/QD-TTg dated 15/9/2005). The E-transaction Law is the first and basic legal framework for the entire electronic transactions in society, the Master plan on e-commerce development is the first State's macro policy with comprehensive orientations and solutions and specific action program with the view to enhancing e-commerce development all over the nation. The Master plan sets foundation for the implementation of several activities related to e-commerce in the period of five years as well as contributes to entering the E-transaction Law into life through specific policies and solutions in economic and commercial fields.

To fulfill the tasks assigned by the Prime Minister, Ministries and agencies have actively carried out the activities set out in the Master Plan. Also, localities throughout the nation have promptly developed plans for implementing the Decision No. 222.

Until 1st August 2008, 40 out of 63 provinces and cities under central authority have formulated local e-commerce implementation plans and approved by the relevant provincial People's Committee.

With the State management functions related to e-commerce and following-up the implementation of the Decision no. 222 assigned by the Government, the former Ministry of Trade (and now Ministry of Industry and Trade - MOIT) issued the Directive No. 14/2006/CT-BTM dated 6/12/2006 on the implementation of master plan on e-commerce development in trade sector. The Ministerial units were assigned specifically to deploy the nine big activities as followings: 1) Training and awareness raising on e-commerce; 2) Completing the legal system for e-commerce; 3) Providing online trade public services; 4) developing support technologies; 5) Enforcing legal regulations relating to e-commerce; 6) Enhancing international cooperation on e-commerce; 7) implementing State management on local e-commerce; 8) Supporting enterprises to apply e-commerce in business operations; and 9) enhancing e-commerce study activities.

With the function of establishing the environment for e-commerce development, State

agencies have responsibilities for leading implementation e-commerce activities to enhance the provision of e-commerce support public services to gain objectives of e-commerce development up to 2010 year as follows:

“Up to 2010, Government agencies shall bring all public services online, in which services of electronic taxation, customs, export and import procedures, procedures relating to investment and electronic business registration, professional commercial licences and dispute settlement procedures are given priority” (the Decision no. 222).

Relating to the websites and electronic services: by the end of 2007, 58 out of 64 People’s Committees of provinces and cities under central authority operate their own websites (note: from 1st August 2008 Vietnam has only of 63 provinces and cities).

□ **Table 1.1 : Growth of number of provincial websites from 2005 to 2007**

Year	2005	2006	2007
Number of provinces/cities having operational website	49	52	58
Rate of provinces/cities having website	76%	81%	90%

At the high level, the website of the National Assembly at www.na.gov.vn are also important channel in providing information on policies of State, offering online dialogue service between State leaders and enterprises and citizens. Besides, the Government has established its website at www.chinhphu.vn (also access at www.vietnam.gov.vn) and www.egov.vn, providing official information, public services from the highest executive body. These websites collect databases and links of Ministries and agencies and localities all over the country facilitating organizations and citizens in searching for information from authorities. Since April 2007, Prime Minister asked to convert the Government website (at www.chinhphu.vn) to the Government information portal with three main features of the Government e-newspaper, the Government electronic administrative information network and the Government public service information portal. However, the Ministry of Home affairs operated website at www.caicachhanhchinh.gov.vn to communicate with citizens and provide information related to its current key activities on State administrative reform.



1.2. Making e-commerce policies

E-commerce legal framework in Vietnam is being more complete, in 2006-2008 the policy framework related to e-commerce was also rounded with various national projects and programs

□ **Table 1.2 : E-commerce policies promulgated in the 2006-2007 period**

07/2/2006	Decision No. 32/2006/QĐ-TTg of the Prime Minister approving the planning on telecommunication and Internet development up to 2010
24/5/2006	Decision No. 112/2006/QĐ-TTg of the Prime Minister approving the scheme on the development of Vietnam's banking sector up to 2010 and orientations toward 2020
29/12/2006	Decision No. 291/2006/QĐ-TTg of the Prime Minister approving the Scheme on non-cash payment in Vietnam in the 2006-2010 period and orientations toward 2020
12/4/2007	Decision No. 51/2007/QĐ-TTg of the Prime Minister approving the program on the development of Vietnam's software industry up to 2010
23/4/2007	Decision No. 55/2007/QĐ-TTg of the Prime Minister approving the list of priority industries and spearhead industries in the 2007-2010 period, with a vision to 2020 and a number of incentive policies for these industries
03/5/2007	Decision No. 56/2007/QĐ-TTg of the Prime Minister approving the program on the development of Vietnam's digital content industry up to 2010

28/5/2007	Decision No. 75/2007/QĐ-TTg of the Prime Minister approving the Master plan on the development of Vietnam's electronic industry up to 2010 with a vision to 2020
07/7/2007	Directive No. 07/CT-BBCVT of the Ministry of Post and Telematics on orientations for Vietnam's Strategy for the development of information technology and Communication in the 2011 – 2020 period
26/10/2007	Decision No. 05/2007/QĐ-BTTTT of the Ministry of Post and Telematics approving the planning on the development of Vietnam's information technology human resources 2020
8/03/2007	Decree on electronic banking operations No. 35/2007/NĐ-CP
10/4/2007	Decree No. 64/2007/NĐ-CP on information technology application in State agencies' operations
21/7/2008	The circular No. 09/2008/TT-BCT on guiding the Decree of supplying information and signing contract on the e-commerce website
To be approved by the end of 2008	<i>National technical regulation on Electronic data interchange for issuing Certificates of Origin (e-C/O)</i>



1.3. Status of IT Standardization in Vietnam 2006-2008

IT standardization is a urgent need of the It development process in Vietnam. Directorate for Standards and Quality (STAMEQ - Web-site: <http://www.tcvn.gov.vn/>) is the national standards body of Vietnam and has been joined ISO as a member since 1977 with main functions to develop legal documents, policies, strategies, and development plans on standardization as well as to guide and supervise standardization, metrology and quality agencies of ministries, branches, and localities in technical methodology and professional skills....For developing and guiding the application of regional and international standards, STAMEQ has been making translations and guide of many ISO standards in IT areas such as following.

- TCVN ISO 9735 (parts 1 to 10, Electronic data interchange for administration, commerce and transport EDIFACT).
- TCVN ISO/TS 15000 (part 1-5, Electronic business eXtensible Markup Language ebXML).
- TCVN 7789 (part 1-6): 2007: Information technology – Metadata registries (MDR)

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

Currently, many IT application in Viet nam are now using standard data transformation between Databases of different information systems such as followings:

2.1. Management System of Electronic Certificate of Origin (eCoSys)

Since 2006-2007, Ministry of Trade actively rolled out the establishment of the electronic C/O system (eCoSys) as one of the first electronic public services in the trade sector. According to the approved plan, eCoSys mainly focused on the management of C/O data by C/O issuing organizations across the country. The C/O issuing organizations did not have to install particular software but use the software built by the Ministry of Trade based on web technology. As for C/O issued by the Offices of Export – Import Administration, the Offices could update data online in eCoSys website at <http://ecosys.mot.gov.vn>.

By the end of year 2007, the Ministry has collected information of around 1.000.000 C/O forms issued throughout the country. In Stage 2 of eCoSys, electronic C/O was applicable for preferential forms issued by the Ministry of Industry and Trade including forms A, D, E, S and AK. Furthermore, enterprises must have computers connected to Internet and card readers connected to the Ministry's MOT-CA system (now MOIT-CA). The module for enterprises is located at Vietnam E-commerce Portal (ECVN). The module for C/O issuing organizations is located at the official website of the Ministry of Trade at <http://ecosys.moit.gov.vn>.

In the eCoSys plan 2008, e-C/O software application is developed comprising particular modules to serve C/O issuing organizations and enterprises based on EDIFACT (UN/ISO 9735).

2.2. Electronic Taxation and Customs

According to the plan of developing e-Government in the financial sector, up to 2010, the five online public services will be offered as followings: electronic customs declaration, electronic taxation declaration, public property registration via Internet, budget code issuance via Internet and Forum to exchange ideas on policies with the Financial Minister.

Vietnam Customs has issued the format of e-customs declaration documents which are the ground for connection and information exchange between the Customs Administration and enterprises and relevant parties with using XML data transformation.

In coming time, the General Department of Vietnam Customs (GDVC) is submitting the Ministry of Finance for approval on proclamation of standards of e-customs declaration documents on basis of acceptance of WCO Data set. Vietnam Customs is deploying e-customs declaration nationwide and extending at a higher level through implementation of e-customs procedures. For both modes, enterprises take the initiative in e-customs declaration, which helps to lessen contact between the Customs and enterprises, to reduce inconveniences. Also, this helps to enhance enterprises' awareness of law compliance.

E-customs declaration and procedures: E-customs declaration is one of the Customs' measures taken to promote the process of customs modernization. Enterprises can connect to the Customs' network via the internet and make customs declaration with the software set up at enterprises' head offices or via the website of customs declaration. Enterprises input data of imports/exports declaration forms into the software set up at enterprises' head offices, then forward them to the Customs via the internet. In such key municipal and provincial Customs departments as of Hanoi, Hai Phong, Dong Nai, Binh Duong, Vung Tau, Da Nang, etc., the rate of e-customs declaration has reached nearly 100%.

The Customs is planning to extend forms and measures to develop in-advance e-customs with a view to socialize the supply of softwares for enterprises' benefits.



In the process of pilot implementation of e-customs procedures and the Phase 1 of e-customs clearance (01 January/2007 - 1 October 2007), 214 enterprises participated in e-customs with 26,087 electronic import/export declaration forms. The total of duties was VND2,272 billion and the total import and export turnover more than \$2.4 billion.

In the Phase 2 (01 October 2007 - 31 December 2007), there were 387 enterprises participating in e-customs with 10,048 electronic import/export declaration forms and the total import and export turnover of more than \$1 billion, the duties of more than VND989 billion.

For a shipment of goods subject to Green channel, the average time for clearance is from 5 to 10 minutes; for that subject to Yellow channel, from 20 to 30 minutes; and for that subject to Red channel, it depends on the goods-checking time at Customs sub-departments.

E-customs procedures have initially succeeded in development of a modern, concentrated clearance model, including the following blocks: concentrated data receipt, processing and declared information reply; concentrated documents inspection; actual goods inspection and supervision of imports and exports.

SECTION III – e-Readiness and e-Application -- eGovernment/eBusiness Related PROJECT UPDATES

3.1. Implementing Project of Cashless Payment during 2006 – 2010 period and related activities:

Before 2005, e-commerce websites in Vietnam were mainly about publishing products and services' information. B2C and C2C transactions stemmed from market demands were small and scattered due to the lack of legal protection. However, since 2007, electronic payment has experienced lots of changes with the following characteristics:

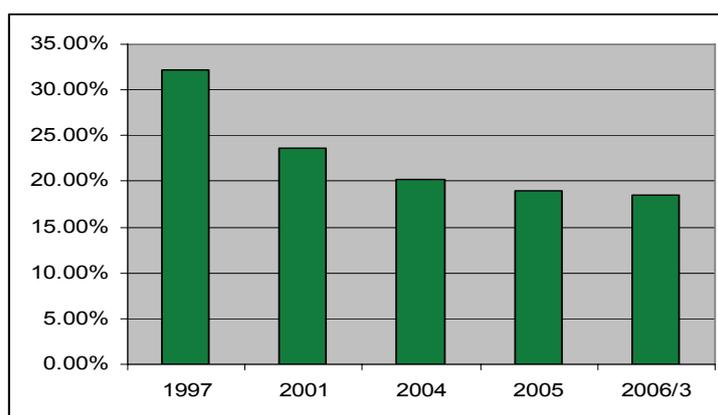
- **Broadened range of participants in implementing and using electronic payment:** in February 2007, Pacific Airlines JSC and Bank for Foreign Trade of Vietnam (VCB) cooperated in selling ticket online, apply paying through credit card. April 2007, Vietnam Paying Network (PayNet) launched, offered billing service of electricity, water, Internet, mobile and insurance through ATM, POS and ePOS (electronic point of sale)...
- **Increased link among card alliances:** the cooperation among 27 banks to develop Smartlink paying network and the success of 4 giant banks in Vietnam National Financial

Switching JSC (Banknetvn) have boosted the bank card market to develop and be more beneficial to customers. These two paying networks account for around 90% of nation wide bank card market.

- **Diversified methods of electronic payments:** common electronic payments are through ATM/POS, paying online through internet and paying through SMS. At present, these payments have real transactions but each has its own problems that need to be solved. Paying channel through ATM/POS initially applied for paying bills, paying for services' fees, buying prepaid card but there still remain problems when it comes to connecting between partners or between POS, which only accepts international cards. These problems urge the paying networks or card alliances to speed up the synchronization among member banks or other systems. Paying through SMS channel was hindered by the small scope of transactions and the need to memorize the code. Paying through the Internet is very promising. Internet banking service begins to utilize its strengths when paying utility was added. Paying online by card is the need of not only e-commerce websites but also of majority customers though it was provided limitedly.

However, in the past two years, there has been an improvement in paying through banking system with a lot of new paying method. These new services have helped reduce the usage of money among enterprises and individuals. According to the Project of Cashless Payment during 2006 – 2010 period, the percentage of money usage of the total paying methods is likely to increase. In 1997, the rate is 32.2% but it decreased to 23.7% in 2001 and 20.3% in 2004, 19% in 2005 and 18.5% in March 2006.¹

< Picture 3.1 : The percentage of cash usage of the total paying methods >



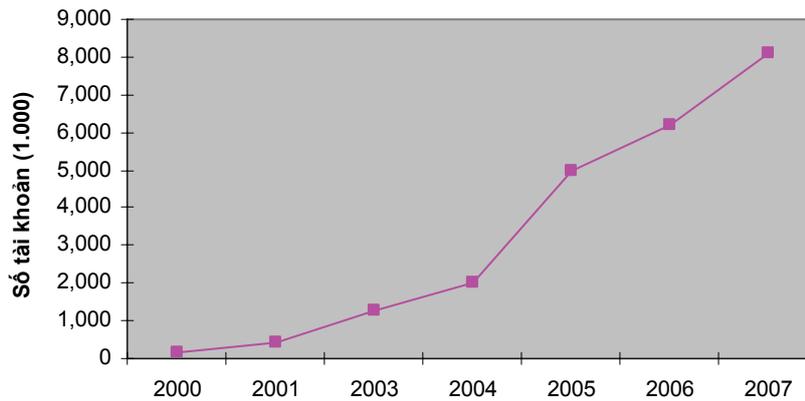
Source : Project of Cashless Payment during 2006 – 2010 period and guidance to 2020

¹ Project of cashless Payment in the period of 2006-2010 and Guidance to 2020 in pursuant with Decision No. 291/2006/QĐ-TTg dated 29 December, 2006 by Prime Minister (abbreviated as Project of Cashless Payment).



Since 2000, the number of individual bank accounts in the banking system has rocketed. The average growth rate is 150% a year on the individual bank accounts and 120% on the deposit.²

< Picture 3.2 : The number of individual bank account 2000-2007 >



Source : Paying method Department – State Bank of Vietnam September 2007

The increasing of the number of bank accounts is a good sign for the banking system to develop paying services. This is also an efficient solution to decrease cash in transactions in the future. Therefore, the network of Vietnam commercial banks must focus more on improving electronic payment when there are more and more individual bank accounts.

□ Table 3.1 : Statistics of bank cards market in 2007

Domestic and international cards	8.4 millions
Banks issuing cards	29
ATM	4.300
POS	24.000
Enterprises accept cards	20.000

Source : State Bank Report – January/2008

² Project of Cashless Payment by Prime Minister .

3.2. Bank alliances

In the circumstance that amount of individual bank accounts increasing, paying networks and new kinds of new cards are expanding according to customers' demands, the main problem is the link between different banks to cut cost and add more benefits for customers, and improve the efficiency of bank industry in general.

There are now 4 bankcards alliances in Vietnam. They are Vietcombank (VCB) Alliance, Vietnam Bankcard Alliances of East Asia Bank, Alliance Banknetvn consisting of 3 state-owned banks and other joint stock banks, and ANZ/Sacombank Alliances. In theory, customers can execute transactions using a bank member card in other member bank's ATM within the same network. However, each member bank develops different services, preventing customers from one member bank execute transferring money on ATM of other member within the same network.

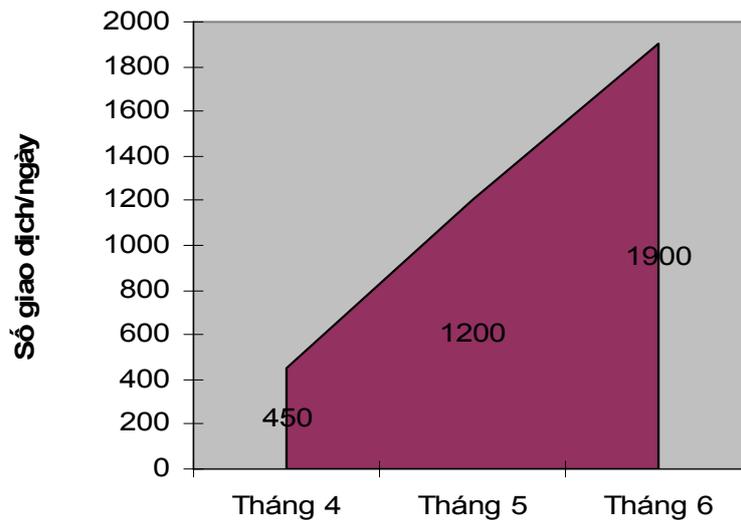
21 April 2007, Vietnam paying networks with cards is marked by successfully connecting 3 banks, Vietnam industrial and commercial Bank (Incombank), Bank of Investment and Development of Viet Nam (BIDV) and Saigon Bank for industry and trade (Saigon Bank) through financial switching service of Banknetvn. According to Banknetvn, its system helps card holders to execute transactions on up to 25 thousands ATM within Banknetvn, accounting for 60% of all ATM nation wide.³ After two months operating officially, there were more than 83 thousands transactions with the total amount up to 23 billions VND on the switching network of 4 banks from Banknetvn and the amount is likely to increase.⁴

³ Source: <http://210.245.61.229/vn/home/tinHDNH.jsp?tin=2538>

⁴ Source: http://www.banknetvn.com.vn/bn_220607.htm



<Picture 3.3 : Daily transactions on Banknetvn network>



Source : http://www.banknetvn.com.vn/bn_220607.htm

Smartlink card service JSC

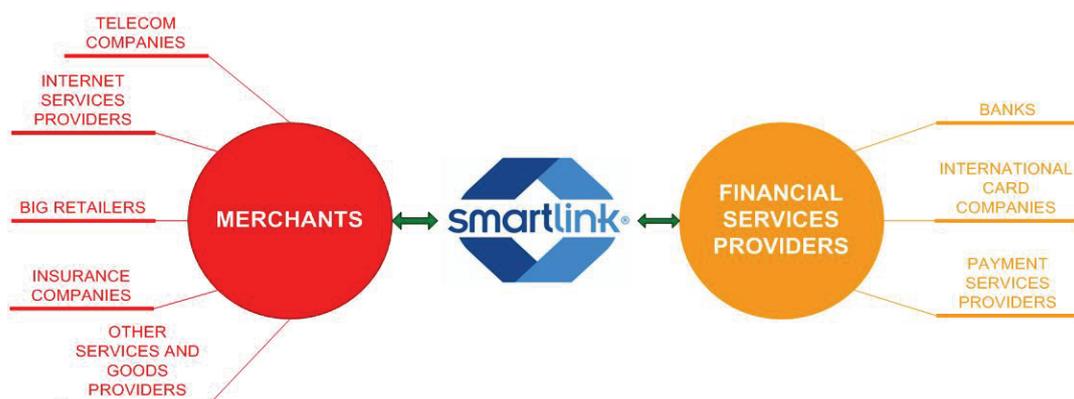
Formerly known as VCB cards alliance, consisting of 17 banks, Smartlink Cards service JSC was born with the main purpose to provide services related to cards, managing and running paying cards network of member banks, developing e-paying channel with the role of an payment gateway. Smartlink showed the cooperation between banks to strengthen and expand multiple cooperation and link to develop and boost paying services, especially paying in e-commerce.

In the plano of the year 2008, Smartlink will connect 28 Banks and support for 8000 ATM by the end of 2008 and having around 1.500.000 transactions/month (50.000/ day).

In the plan of the year 2009:

- Smartlink will reach 5.000.000 transactions/month in ATM, POS.
- Users: Smartlink 2008: 4 mill subscribers (2009: 6 mill subscribers)
- Total ATM machines of Smartlink is 2500, (2009:3500 ATM machines)

< Picture 3.4 : Smartlink model >



3.3. Pacific Airlines E-ticket

According to International Air transport association IATA, e-ticket helps aviation sector save 3 billion USD each year, improving competitiveness for aviation corporation. Moreover, buying tickets online help customers save time as well as other costs.

In early 2007, Vietnam aviation sector began e-ticking. After switching to low fare aviation, Pacific Airlines applied selling e-tickets to reduce costs for agents and manage flights more efficiently and printing costs..etc. For customers, convenient and active advantages when booking airline are obvious and there have been positive feedbacks from customers. Pacific Airlines currently uses 2 paying methods, paying in advance by international cards like Visa, Visa Debit, Master Card, JCB, American Express and pay in cash. Paying with credit cards is more favorable and accounts for a majority in paying value by Pacific Airlines. Up to 15 December 2007, according to Pacific Airlines reports, approximately 65% of all e-tickets are paid by credit cards. With Techcombank debit in particular, approximately each month, there are 700 transitions and up to now, thousands of customers of more than 20,000 customers using cards book online.



< Picture 3.5 : E-ticket of Pacific Airlines >

PACIFIC AIRLINES
www.pacificairlines.com.vn
112 Hong Ha Street, Ward 4, Tan Binh District, Ho Chi Minh City, Viet Nam

E-TICKET AND ITINERARY CONFIRMATION
Tax Reg: 0301103030-1
Issued under the Approval No. 1470/CT-QTTVAC dated 01 Aug 2007, Ho Chi Minh Tax Dept

CONFIRMATION
Confirmation number: **G157KL** Booked by: HDQLETHU
Booking date: 17-Sep-2007

CONTACT INFORMATION
Name: DUY VU LE
Email: duyvu.it@pacificairlines.com.vn
Address: IT, SGN, VN
Phone No.: 0938855133 PAX (Passenger's phone), (Contact's phone)

PASSENGER DETAILS
1. MR DUY VU LE

ITINERARY INFORMATION

Date	Flight	Departure	Arrival	Fare type
18-Sep-2007	BL 796	Ho Chi Minh City (10:35)	Ha Noi (12:35)	SkySaver
23-Sep-2007	BL 807	Ha Noi (19:45)	Ho Chi Minh City (21:45)	SkySaver

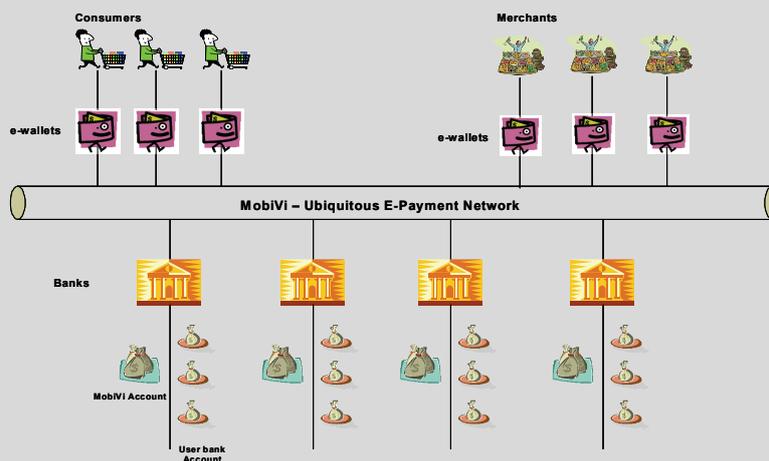
3.4. Mobivi e-paying service network

Vietnam e-payment market has only been active in 2007. Therefore, the appearance of many paying models with a lot of services is an obvious thing. Beside Smartlink, Mobivi paying service of Viet Phu online value added services JSC aiming at improving e-payment environment, creating a model of general, multi function and beneficial payments for customers.

Mobivi system is a network connecting between retailers, products and services providers, customers and financial and banking organizations with synchronized system solutions. This service solves the gap among buyers, sellers and banks in e-commerce. In particular, Mobivi service includes Internet payments, paying through mobile phones and Card Debit. In trading, Mobivi plays as an e-wallet for buyers and sellers thanks to bank account to transfer from customers' bank account to sellers' bank accounts. Mobivi's role is illustrated as in the picture.

Mobivi working model

On all websites that accept paying through Movivi, buyers can execute paying transactions or using mobile phones. When getting paying order form customers, online system of sellers will transfer paying information to Mobivi system. After that, buyers will log on with the name of the account, log in code to Mobivi to report details about paying information for the transactions. After sending the paying acceptance order, Mobivi system will transfer customers to websites of sellers and the buying order is completed. In case the account is not enough, Mobivi will report to the buyers that the order can't be completed and ask buyers to transfer money to their account on Mobivi. When Mobivi received enough money to pay, Mobivi will report to buyers and sellers that the money is enough to pay. The reports can be sent by e-mails or SMS. Buyers can also check their account on Mobivi by SMS.



3.5. B2C website 123mua! with e-payments

123mua! is known as a young B2C website but runs efficiently recently. Number of orders in 2007 is much higher than 2006. Approximately each month last year, 123mua! received 150 orders, but in 2007, the number grows 16 times, reaching 2500 orders a month.

One of the main attracting points of 123mua! is its strategic payment for the website. Initially, based on previous technology and customers from online game, 123mua! defines its target customers are gamers using prepaid vina game cards to pay. However, to make the website stronger and suitable with business strategy, 123mua! is forced to supplement other paying tools. To December 2007, 123mua! offered 6 choices for customers to pay, Visa&Master card, prepaid Vinagame, multi functions EAB cards, transferring money through banks, transferring money through post offices and cash on delivery.

3.6. Games industry

Recently, VCT Infocom announced that VTC Games industry with E- Payment Gateway brings many e-services and has around 10 mill subscriber

See more at <https://paygate.vtc.vn/paygate/>

SECTION IV – Other e-commerce programs on Data Privacy, Trustmark and training

4.1. Data Privacy protection and Trustmark Programs

In the context of ever increasing e-commerce application, the collection of consumers' personal information over the Internet has become a common practice among businesses. E-commerce transactions between businesses and consumers (B2C), data compiling and processing, targeted advertising, customer relation management (CRM), etc, all require a great deal of personal data, including most private information. Various advanced technologies such as cookies, web bug, global positioning system, and digitized database have allowed dotcom businesses to automatically collect and process personal information over the Internet with much ease. For many online advertisers, gathering and selling consumers' personal information have become their prime business. Personal information is now a high-value asset for businesses, and consumers participating in online transactions may not be fully aware of all the harmful consequences that may arise from the misuse of their personal information.

While developed countries and many international organizations have put the issue of data privacy in the center of their policy agenda, information privacy and consumers' privacy rights are still a new concept in Vietnam. On the one hand, the current legal system lacks regulations on privacy protection; on the other hand, businesses and consumers themselves are still unfamiliar with this concept. However, recent progress of information technology and wide penetration of the Internet have made more and more visible the effects of personal information leakage. As a result, the privacy issue is now emerging to draw a wide range of public attention.

According to Ministry of Trade's surveys throughout the years, businesses are increasingly aware of and concerned with the issue of information security, since cyber crimes related to personal information theft, private images dissemination, spamming, etc, are becoming more and more common.

□ **Table 4.1 : Survey results of data privacy policy on e-commerce websites**

Forms of website	With data privacy policy		Without data privacy policy	
	Quantity	%	Quantity	%
C2C	19	19%	83	81%
B2C	36	24%	117	76%
B2B	20	57%	15	43%
Total	75	26%	215	74%

Source : Personal data and data privacy protection in e-commerce – Research by the E-commerce Department, Ministry of Industry and Trade, May 2007.

Out of the 290 surveyed websites by the end of year 2006, only 75 websites (accounting for 26% of the total number) announced data privacy policy. Thus, there still remain 74% of websites that lack specific commitments to customers on the due practice of data collection and usage. Further scrutiny of websites shows that those at higher functional level also have greater interest in this issue. B2B portals – the most professional e-commerce websites – boast the highest rate of websites having data privacy policy (57%), while B2C and C2C websites, though dominate in number and target individual consumers, have a much lower rate of privacy policy disclosure.

Joining the Asia-Pacific Trustmark Alliance

By 12 June 2008, The Vietnam E-commerce Centre (EcomViet) officially became the ninth member of the Asia-Pacific Trustmark Alliance (ATA), the accession to the alliance will assist EcomViet in recognising trusted websites that met standards of protecting personal data and providing safe transactions. (Established in 2001 to raise public awareness and trust in e-commerce, ATA now has nine members, Vietnam's EcomViet as well as ECNetwork, Japan's Tradesafe, KIEC from the Republic of Korea, Mexico's AMIPCI, Singapore's CNSG, SOSA from Taiwan, and the US' TRUSTe).

See more at

<http://www.vndaily.net/english/2004/modules.php?name=News&file=article&sid=5391>



4.2. “Students with E-commerce” Program

In 2007, the Students with E-commerce Program was first held aiming at finding new e-commerce ideas from students. Started in the end of May 2007 and closed in December 2007, the program gave universities, enterprises in e-commerce sector and students opportunities to exchange ideas, exploit and increase result in e-commerce study and research. The program was sponsored by the Ministry of Industry and Trade in cooperation with enterprises and capital funds. The program was expected to be annually organized to increase social awareness on e-commerce as well as encourage new e-commerce applications in business activities.

At the Vietnam E-commerce Business Forum held in Hanoi in January 2007, students majored in e-commerce and trade expressed their hope to become successful businessmen in e-commerce sector. Many students proposed their e-business ideas and expressed their expectation to receive support and consultancy from the E-commerce Department as well as enterprises and capital funds.

To bridge students' ideas and enterprises, the E-commerce Department, the Ministry of Industry and Trade held the Students with E-commerce Program (the program's official website at www.ytuongso.vn). The program aimed at: 1) Widely propagandize and raise social awareness on e-commerce; 2) Foster training activities on e-commerce in Vietnam's universities; 3) Connect study and training activities in universities with e-commerce practices; 4) Recognize and reward new innovative and practical e-commerce ideas from students.

Program content: A student or a group of students express his/their ideas related to the application or implementation of e-commerce in production and trading to get benefits. The idea may either haven't been announced and applied or have been already implemented in practice.

Scope of e-commerce is the application of electronic devices in selling and buying goods and services.

Participants: A student or a group of students studying in any education institutions of Vietnam (colleges, universities, undergraduate, masteral, or doctoral programs, etc.).

Five months after launching, the program received 233 ideas from 31 universities all over the country. Into the final round, 14 outstanding ideas were selected by 11 enterprises and capital funds in the e-commerce sector for honored awards. A majority of these 14 ideas addressed the hot issues in student's life, for example online searching for rented houses, digital library, multi-function student card, etc.

2008 eBusiness Asia Committee

eBusiness Asia Committee Progress Report



eBusiness Asia Committee Progress Report

2008 Associate Members Progress Report : eBusiness Asia Committee

SECTION I – GENERAL CONDITION UPDATE

1.1 Membership status

The eBusiness Asia Committee was established in December / 2000 for facilitating the e-Business environment in Asian region by implementing ebXML and/or XML based emerging technology. The eBusiness Asia Committee is a non-profitable and a non governmental organization, and there are 24 members.

The members are ;

1. Japan

- ECOM (Electronic Commerce Promotion Council of Japan):www.ecom.or.jp
- Fujitsu (www.fujitsu.com)
- NEC (www.nec.com)
- NTTDATA (www.nttdata.co.jp)
- Oracle Japan

2. Republic of Korea

- KIEC (Korea Institute for Electronic Commerce): www.kiec.or.kr
- B2B Internet
- Posdata (www.posdata.co.kr)
- KTNET (www.ktnet.co.kr)
- Korea Policy Tech Univercity

3. Chinese Taipei

- III (Institute for Information Industry): www.iii.org.tw
- GCOM (www.global-com.com.tw)
- TCA
- Trade Van
- NTNU

4. Malaysia

- DagangNet (www.dagangnet.com)
- Royal Malaysian Customs (www.customs.gov.my)



5. Thailand

- NECTEC (National Electronics and Computer Technology Center)
www.nectec.or.th
- I3T

6. China

- CECID (Center for E-Commerce Infrastructure Development) of Hong Kong
www.cecid.hku.hk
- SKLSE (State Key Laboratory of Software Engineering), Wuhan University
www.sklse.org
- CNIS

7. Singapore

- CrimsonLogic (www.crimsonlogic.com.sg)

8. Other region

- OASIS UBL

1.2 eAC Going under AFACT

eAC has decided to join AFACT as a special committee under the umbrella of AFACT at the 19th eAC meeting on May, 2008.

SECTION II – ebXML Based STANDARDS DEVELOPMENT

2.1 Interoperability Task Report

The Interoperable task of the ebXML Asia Committee is engaging in the interoperable in Functional Service View of ebXML standardization, that is Information Technology side, and currently dedicated to the interoperability test among the solutions developed by each member.

Up to now eBusiness Asia Committee has issued ebXML interoperability certification on ebXML Messaging Service specification v2.0, including basic functions and reliable messaging, for 19 companies and organizations passed the interoperability test.

The following table shows the solutions passed the certification.

	Aug / 2003	May / 2005
Level 2 Certificate Reliability	CECID (Hong Kong) CrimsonLogic (Singapore) Fujitsu (Japan) GCOM (Taipei) Hitachi (Japan) IIIT (Thailand) Innodigital (Korea) KTNET (Korea) NEC (Japan) POSDATA (Korea) Samsung SDS (Korea) SKLSE (China)	Algo21(Japan) B2B Internet (Korea) CJS (Japan) Dasan (Korea) ETRI (Korea) Infoteria (Japan) NTT Data (Japan)
Level 3 Certificate Security		CECID (Hong Kong) CrimsonLogic (Singapore) Fujitsu (Japan) Infoteria (Japan) IIIT (Thailand) Innodigital (Korea) KTNET (Korea) NEC (Japan) SKLSE (China)

In 2006, the Interoperable task group contributed a pull messaging service specification which enables a client/server solution for ebMS V3 to OASIS. The ebMS V3 is expected to be published in 2007.

In 2008, we have started the ebMS V2 Interoperability test for late comers. Also we have a plan for the WSR and the ebMS V3 Interoperability test within a year.

2.2 Core Component Task Group

The Core Component task of the eBusiness Asia Committee is engaging in the part of Business Operational View of ebXML standardization, that is standardization of the business information entities and the methodology for standardizing them.

The world wide activities to standardize Business Process and Business Information is



going on within the UN/CEFACT. The eBusiness Asia Committee is one of the nominated organizations participating the harmonization group (TBG17) of UN/CEFACT. Which means that the eBusiness Asia Committee can submit the new Core Components to UN/CEFACT based on Asian business requirements. The eBusiness Asia Committee is supporting the standardization of Business Information components based on the harmonization process within Asia.

SECTION III – ebXML PROJECT UPDATES

3.1 Registry and Repository Federation Project

The Registry and Repository Federation Project was started jointly with ISO/IEC JTC1 SC32 WG2 and successfully completed by March of 2006.

In near future we can expect several levels of Registry and Repositories scattered in the world supporting their dedicated business domains. For example, in Korea they already have several Industry Registry and Repositories, such as Steel industry, Trade industry, Automobile industry, and also the National level Registry and Repository. Those Registry and Repositories should be smoothly federated to support the inter-industry business or the inter-country business.

The Objective of Registry and Repository Federation is to enable sharing of information and software between interested parties within deferent domains for the purpose of enabling business process integration, the public available registries provide a seamless service federated with deferent registries in deferent domains (deferent industries of deferent countries).

2008 Associate Members Progress Reports

Pan-Asian E-Commerce Alliance (PAA) Progress Report



**Pan-Asian E-Commerce Alliance
(PAA)
Progress Report**

2008 Associate Members Progress Report : PAA

SECTION I – GENERAL CONDITION UPDATE

1.1 Introduction

1.1.1 The Pan-Asian E-Commerce Alliance is the first regional e-Commerce alliance in Asia that aims to promote and provide secure, trusted, reliable and value-adding IT infrastructure and facilities for efficient global trade and logistics. This includes the mutual recognition of digital certificates issued by members' Certificate Authorities for use in electronic documents exchanged among the parties. Combined membership of the parties now exceeds 200,000 organizations, representing almost all active trading enterprises in the Asian market.

1.1.2 Current PAA Members comprise Tradelink of Hong Kong, Trade-Van of Chinese Taipei, CrimsonLogic of Singapore, KTNET of Korea, CIECC of China, NACCS of Japan, Dagang Net of Malaysia, TEDMEV of Macau and CAT Telecom Public Co. Ltd of Thailand. In addition, Intercommerce of Philippines, Trade Gate of Australia, TEDI Club of Japan and PT EDI of Indonesia have joined PAA as associate members.

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Communication Protocol

2.1.1 PAA interconnection Specification was developed based on ebXML MS v2.0 Revision C and ebXML Collaboration Protocol Profile and Agreement v2.0. The specification is approved and endorsed by PAA Steering Committee in February, 2003.

2.1.2 All PAA members are currently connected to each other based on the PAA interconnection Specification.



2.2 Messaging Standards

2.2.1 PAA uses standard XML as the native syntax for processing managing information to create PAA document format and some were adoption from UBL. It follows some of the guiding principles for XML tools and methodologies such as Compliance with standard UML; Compliance with ebXML where relevant; and etc.

2.2.2 The following are some of the PAA documents format for PAA projects:

- Purchase Order
- Invoice
- Advance Shipping Notice
- Packing List
- Air Way Bill
- Trade Documents format for Export Declaration
- Certificate of Origin

2.2.3 The following are some of the code list adopted:

- Location Code – UN/LOCODE
- Country code – ISO 3166
- Currency code – ISO 4217
- Unit of measurement – UN/ECE No. 20
- Weight unit – UN/ECE No. 20
- Volume unit – UN/ECE No. 20
- Package type – UN/ECE No. 21
- Mode of transport – UN/ECE No. 19
- Container type – ISO 6346

2.3 PKI Mutual Recognition Framework

2.3.1 The PAA Certificate Policy Authority (“Policy Authority” or “PAA Policy Authority”) was established to define a common Certificate Policy and administer the recognition of the Certificate Policies and Certification Practice Statements (CPS) used by Alliance members against this common Certificate Policy.

PAA Certificate Policy adheres to RFC 2527. CAs are free to adopt their own policies and practices for those areas that do not have any specific stipulations within their CPS, which must also adhere to RFC 2527.

2.3.2 This Certificate Policy (“Policy”) is intended for use within the Public Key Infrastructure (PKI) established by the members of the Alliance as defined and managed by the Pan Asian Certificate Policy Authority Limited (“Authority”).

2.3.3 This Policy contains the set of rules that govern the issuance and use of digital certificates among the members of the Alliance, and indicates the applicability of the certificates to the communities within the Alliance. Specifically, the Policy is intended to support the Alliance and its Members in the following areas:

- Provide high level of assurance that enables secure and reliable transmission of business and transaction documents, and contribute to assuring non-repudiation of business transactions;
- Facilitate inter-connection of network services to provide e-commerce transaction application services for the business community; and
- Support a Pan Asian portal enabling global business connection and communication.

SECTION III – Trade Facilitation / eBusiness / eCommerce Related PROJECT UPDATES

3.1 Secure Electronic Cross Border Trade Transactions

Leveraging the PAA legal framework for electronic cross border trade transactions and the mutual recognition of digital certificates amongst members of the alliance, PAA has over the years developed a suite of services and solutions for the PAA economies. We enable and facilitate our customers to exchange trade documents electronically with local and overseas business partners in a secure environment. Through the PAA network, an importer from an importing economy can seamlessly inherit and reuse trade declaration data from the corresponding exporter of an exporting economy for the local trade declaration.

In recent months, we have made significant achievements and contributions for the freight industry. Freight forwarders of various PAA economies can now exchange a range of trade documents such as Air Way Bill, Commercial Invoice, Packing List, and Bill of Lading with their counterparts both effectively and efficiently.



3.2 Electronic Certificate of Origin

As an APEC Pathfinder initiative, PAA has been actively involved in the development and facilitation of exchange of electronic certificate of origin between import and export economies. It is envisaged that initiative will bring values to both the traders and the government authorities. With the blessing and support from the local authorities, Chinese Taipei and Korea are now going full stream ahead on establishing the first ECO project. The project involves both the public and private sectors from the two economies. It is anticipated that first ECO exchange will be carried out within this year. In the mean time, other economies like Hong Kong, Japan and Singapore are exploring the possibility to participate.

Contact Information

2008 AFACT Steering Committee Board Members

2008 AFACT Heads of Delegations

2008 eBusiness Asia Committee

2008 Working Groups Chairs

2008 Associate Members



Contact Information

2008 AFACT Steering Committee Board Members

Title	Organizations	Name	Tel / e-mail
Chairman	Korea Institute for Electronic Commerce	Chun-Seok Kim	Tel: +82 2528 5800 kcsk@kiec.or.kr
Vice-Chairman UN/CEFACT Vice-Chair	NIC, Ministry of Communications & Information Technology	T.A. Khan	Tel: +91 11 2306 1299 takhan@nic.in
Vice-Chairman	Ministry of Information and Communication Technology	Anchalaporn Siriwan	Tel: +66 2505 8882 anchalaporn@mictmail.com
Elected Head of Delegation	Ministry of Commerce	Mahmood Zagar	Tel: +98 21 6692 4623 zargar@dpimail.net
Elected Head of Delegation	Department of Trade & Industry	Michael Dodjie R. Fabian	Tel: +632 890 4727 betpdf@dti.gov.ph
UN/CEFACT Rapporteur for Asia	Korea Institute for Electronic Commerce	Sang-Won Lim	Tel: +82 2 528 5020 swlim@kiec.or.kr
AFACT Secretariat	Institute for Information Industry (III)	Jyh-Sheng Ke	Tel: +886 2 2737 7204 jske@iii.org.tw

2008 AFACT Heads of Delegations		
Members	Heads of Delegation	Tel / e-mail
Afghanistan	Mohammad Malyar Jabarkhel	Tel: +93 700 293162 / +93 777 293162 malyar@hotmail.com
Australia	Ian Watt	Tel: +61 3 594 31022 Ian.Watt@aecommerce.com.au
Cambodia	CHHUON Chan Than	Tel: +855 23 216 331 chh.chanthan@iic.edu.kh
Chinese Taipei	Dr. Jay-San Chen	Tel: +886 2 2343 1711 js.chen@bsmi.gov.tw
India	T. A. Khan	Tel: +91 11 2306 1299 takhan@nic.in
Iran	Dr. Mahmood Zargar	Tel: +98 21 6692 4623 zargar@dpimail.net
Japan	Kazumi Hirai	Tel: +81 3 3555 6084 k-hirai@jastpro.or.jp
Korea	Chun-Seok Kim	Tel: +82 2528 5800 kcsk@kiec.or.kr
Malaysia	Dato' Normah binti Md Yusof	Tel: +603 8888 3200 / +603 8888 2480 +603 8888 3163 normah@mampu.gov.my
Mongolia	Sambuu Demberel	Tel: +976 1 323 974 chamber@mongolchamber.mn
Pakistan	Javed Naushahi	Tel: +92 21 4539701 / +92 21 4538837 jnaushahi@yahoo.com
Philippines	Michael Dodjie R. Fabian	Tel: +632 890 4727 E-mail: betpdf@dti.gov.ph
Saudi Arabia	Faisal Saleh Al-Mousa	Tel: +966 1 477 4488 FSMousa@saudiedi.com
Singapore	Quah Chin Yong	Tel: +65 6887 7888 chinyong@crimsonlogic.com
Sri Lanka	P.A. Dias	Tel: +94 11 243 2131 padias@customs.gov.lk
Thailand	Dr. Ajin Jirachiefpattana	Tel: +66 2 505 7223 ajin@mict.go.th
Viet Nam	Dr. NGUYEN MANH QUYEN	Tel: +84 4 2005398 Quyennm@moit.gov.vn



2008 eBusiness Asia Committee	
Chairman	Tel / e-mail
Hisanao Sugamata	Tel:+81 3 3436 7568 sugamata@ecom.jp

2008 Working Groups Chairs		
Joint Working Groups	Chairman	Tel / e-mail
Finance Working Group (FWG)	Javed Naushahi	Tel: +92 21 4539701 Tel: +92 21 4538837 jnaushahi@yahoo.com
Customs Working Group (CWG)	Azhar Majeed Khalid	Tel: +92 21 9214160 collector@paccs.gov.pk
Air-Transportation Working Group (ATG)	K.S. Kunwar	Tel: +91 11 2560 1001 Ks.kunwar@gmrgroup.in
Supply Chain Working Group (SCWG)	Yong Jae Kim, Ph.D.	Tel: +82 31 8041 0290 yjkim@kpu.ac.kr
XML Working Group (XMLWG)	Karlson Hsia, Ph.D.	Tel: +886 2 2713 9000 ext.108 khhsia @iii.org.tw
Security Working Group (SWG)	Perry Liu, Ph.D.	Tel: +886 2 2739 1000 ext.103 pwl@iii.org.tw
Legal Working Group (LWG)	Zahid Usman Jamil	Tel: +92 21 568 0760 / 268 5276 zahid@jamilandjamil.com
Business Collaboration Framework (BCF)	Kamarudin Bin Tambi	Tel: +65 6887 7516 kama@crimsonlogic.com
Awareness and Education Working Group (AEG)	Kenji Itoh	Tel: +81 297 94 2985 kenji412002@yahoo.co.jp



2008 Associate Members		
Members	Name	Tel / e-mail
Pan-Asian E-Commerce Alliance (PAA)	Amiruddin Abdul Aziz	Tel: +60 3 2723 2723 amir.aziz@timegroup.com.my
	Ms. Grace Wong	Tel: +852 2599 1671 grace.wong@tradelink.com.hk

Meeting History



Meeting History

	<i>Year</i>	<i>Date</i>	<i>Place</i>	<i>Remark</i>
1st	1990	Nov. 5~6	Tokyo, Japan	JS/EB Plenary
2nd	1991	Jun. 25~26	Singapore	JKS/EB Plenary & EDICOM '91
3rd	1991	Oct. 28~29	Tokyo, Japan	AS/EB Plenary
4th	1992	Jun. 11~12	Tokyo, Japan	AS/EB Plenary & EDICOM '92
5th	1992	Oct. 29~30	Seoul, Korea	AS/EB Plenary
6th	1993	May. 20~21	Beijing, China	AS/EB Plenary
7th	1993	Oct. 25~27	Seoul, Korea	AS/EB Plenary & EDICOM '93
8th	1994	Jun. 6~8	Kuala Lumpur, Malaysia	AS/EB Plenary
9th	1994	Nov. 28~30	Chinese Taipei	AS/EB Plenary & EDICOM '94
10th	1995	Jun. 5~7	Bangkok, Thailand	AS/EB Plenary
11th	1995	Nov. 1~3	Kuala Lumpur, Malaysia	AS/EB Plenary & EDICOM '95
12th	1996	Jun. 4~7	Manila, Philippines	AS/EB Plenary
13th	1996	Oct. 28~30	New Delhi, India	AS/EB Plenary & EDICOM '96
14th	1997	Apr. 30~May. 2	Singapore	AS/EB Plenary & EDICOM '97
15th	1997	Nov. 2~6	Colombo, Sri Lanka	AS/EB Plenary

	<i>Year</i>	<i>Date</i>	<i>Place</i>	<i>Remark</i>
16th	1998	Jul. 4~10	Tehran, Iran	AS/EB Plenary
Management Team Meeting	1999	Apr. 22~23	Singapore	
17th	1999	Sep. 5~10	Seoul, Korea	AS/EB→AFACT Plenary & EDICOM '99
18th	2000	Sep. 11~15	Chinese Taipei	AFACT Plenary & EDICOM '00
19th	2001	Oct. 1~3	Jakarta, Indonesia	AFACT Plenary & EDICOM '01
20th	2002	Oct. 28~Nov. 1	Kuala Lumpur, Malaysia	AFACT Plenary & EDICOM '02
21st	2004	Jan. 11~14	Karachi, Pakistan	AFACT Plenary & EDICOM '03
22nd	2004	Sep. 19~22	Singapore	AFACT Plenary & EDICOM '04
23rd	2005	Oct. 24~27	Hanoi, Viet Nam	AFACT Plenary & EDICOM '05
24th	2006	Aug. 7~11	Karachi, Pakistan	AFACT Plenary & EDICOM '06
25th	2007	Aug. 6~10	Bangkok, Thailand	AFACT Plenary & EDICOM '07
26th	2008	Oct. 13~16	Seoul, Korea	AFACT Plenary & EDICOM '08

**Publisher**

Dr. Jay-San Chen

Director General

Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs

Publishing office

Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs 4 Sec, 1,
Chi-Nan Rd., Taipei city 100, Taiwan, R.O.C.

Editor-in-Chief

Gary Gong

Vice president and General Director

Innovative Digitech-Enabled Applications & Services Institute (IDEAS), Institute for information Industry

Executive Editor

Ariel Wang\Project Manager

Innovative Digitech-Enabled Applications & Services Institute (IDEAS), Institute for information Industry

Executive office

Innovative Digitech-Enabled Applications & Services Institute (IDEAS), Institute for information Industry

8F., No.133, Sec. 4, Minsheng E. Rd., Songshan District, Taipei City 105, Taiwan, R.O.C

Tel: +886 2 2713 9000 Fax: +886 2 2717 6510

Reviewing Board Members

Chun-Seok Kim

2008 AFACT Steering Committee Chairman

T. A. Khan

UN/CEFACT Vice Chair

Sangwon Lim

UN/CEFACT Rapporteur for Asia

Jyh-Sheng Ke

AFACT Secretariat

AFACT Secretariat

Ms. Ariel Wang

Administrator to AFACT Secretariat

Tel: +886 2 2713 9000 # 588

E-mail: ariel@iii.org.tw

Secretariat Address :

8F., No.133, Sec. 4, Minsheng E. Rd., Songshan District, Taipei City 105, Taiwan, R.O.C

Tel: +886 2 2713 9000

E-mail: secretariat@afact.org

<http://www.afact.org>