E-Government Developments

Bulgaria Adopts Revolutionary E-Governance Act

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On November 23, 2007 in the National Assembly of the Republic of Bulgaria was tabled the bill of the E-Governance Act (EGA) see website www.parliament.bg/bills/40/602-01-105rtf, which is intended to govern the activity of the administrative bodies when working with electronic documents, the provision of electronic administrative services and electronic documents exchange between administrative bodies. Aiming to provide high quality service to citizens the scope of the Act encompasses also the persons carrying out public functions and organizations providing public services unless otherwise specified in the Act. EGA entered into force on the June 13, 2008.

The EGA is a revolutionary act, aiming at reforming substantially the activity of the administrative bodies through implementing information and communication technologies and at turning the public administration to better serving citizens. Such reform could be achieved by overall rearrangement of all business processes in Bulgaria and change of the basic principles, which govern the work of the public administration.

With reference to implementation of the reform EGA identifies three main groups of relations:

1. relations related to the provision of electronic administrative services to citizens;
2. relations related to internal exchange of information and documents and the workflow of paper and electronic documents; and
3. relations related to the automated exchange of electronic documents between administrative bodies.

Principles

Aiming to achieve its main goals EGA introduces three fundamental principles:

Principle of one-time data collection and data creation

This principle means that administrative bodies, persons carrying out public functions and organizations providing public services are not allowed to request from any person to present or produce evidence of already collected or created data, respectively to present documents, being already collected or created by another administrative body. The principle of one-time data collection and data creation implies the obligation that these data, respectively documents be obtained *ex officio* from the body, which by virtue of law will collect or create such data for the first time and will thereafter amend or erase such data.

Principle of ex-officio notification

The second fundamental principle of EGA refers to the obligation of any administrative body that first creates or collects data about a citizen ("primary administrator") to send these data *ex officio* to any administrative body, person carrying out public functions and organization providing public services, which lawfully keep such data and have requested an update.

Principle of automated submission

This principle requires that the administrative bodies must exchange data between themselves by electronic means only and in automated regime. Where the law requires keeping of registers in hardcopy, documents may be exchanged as an exception in hardcopies or as electronic documents with unstructured content.

Obligations of the providers of electronic administrative services

In pursuance of law administrative bodies, persons carrying out public functions and organizations providing public services shall provide all services within their competence by electronic means, unless the law provides for special form for carrying out individual actions or issue of relevant acts.

All administrative bodies, persons carrying out public functions and organizations providing public services, which provide electronic administrative services to citizens and organizations within their competence are considered providers of electronic administrative services and therefore they are obliged to comply with all legal requirements for the provision of such services. Providers of electronic administrative services shall not refuse accepting electronic documents, issued and signed according to the requirements of the Electronic Document and Electronic Signature Act (EDESA) and EGA, and shall not deny issuance of electronic document or providing electronic administrative services.

EGA obliges the providers of electronic administrative services to provide unhindered, direct and permanent access for the service-users to information about their accurate name, head office and address, addresses of their territorial offices, the bodies supervising their activity, the way and order for submission of proposals, warnings and complaints and the administrative proceedings, the charges due for the services, if any, as well as contact details, including phone, e-mail and web site with interface for electronic communication, as well as their unique identifier.

With regard to providing high quality administrative services to citizens EGA incorporates a number of new obligations for the administrative bodies, the persons carrying out public functions and the organizations providing public services. First of all these persons being providers of electronic administrative services shall enable the citizens and organizations to indicate unique identifier when requesting a specific electronic

administrative service and respectively they shall identify themselves. Secondly, the Act incorporates a special rule for uniform astronomical time, which requires that administrative bodies, persons carrying out public functions and organizations providing public services use only information systems, which indicate astronomical time according to a standard, specified by the Council of Ministers. By introducing that rule the occurrence of facts with legal or technical meaning will be reported punctually to year, date, hour, minute and seconds, furthermore based on a legally fixed standard.

In case the work and processes of providing electronic services in a specific sector require special rules, enhanced criteria for information safety or special standards for operational compatibility, then these will be established by regulations issued by the relevant minister. However the special sector rules, which may be introduced by such regulations, shall not contradict or repeal the general rules of EGA and shall not exempt the providers of the relevant electronic services from the obligation to adhere to the general rules of the law.

Provision of electronic administrative services

EGA governs administrative services, provided to citizens and organizations by administrative bodies, services provided by persons designated to carry out public functions, and public services that may be requested and/or provided remotely by electronic means (electronic administrative services). The Act requires that every provider of electronic administrative services shall make public its official internet site and shall announce the provided services in a clear and accessible manner by providing freely and free of charge detailed information about any offered electronic administrative service, including in its territorial offices, in the municipalities and on the official internet site.

In terms of improving the quality of providing services to citizens and organizations, the Minister of State Administration and Administrative Reform shall establish and maintain an integrated portal for access to electronic administrative services, and the services shall be provided in an accessible way in a user-friendly dialog mode. The services also shall be customized for use by disabled persons.

When providing electronic administrative services, the providers shall inform users in advance in a clear, understandable and unambiguous way about the technical steps for the provision of the relevant service, its legal meaning and the term for its provision, whether

the issued act will be stored in electronic form by the provider and how it may be accessed, the technical means for finding and correcting errors in the process of data entry before making statements for the service and the languages in which the service is available.

In connection with the provided services, every provider shall ensure adequate, efficient and accessible technical means for finding and correcting errors in the process of data entry before the service user makes the relevant statements. Further the Act obliges every provider of electronic administrative services to provide access for users to its acts and other statements in connection with the service provision in a way enabling their storage and reproduction.

EGA imposes restrictions that the providers of electronic administrative services may collect, process and submit personal data only as far as necessary for the provision of the relevant electronic services and prohibits the use of the collected data for any other purposes, except with the explicit consent of the person to which they refer or if permitted by law.

Submission of electronic documents

In connection with the use of electronic administrative services EGA settles the opportunity that their users may make electronic statements and may send them by electronic means subject to submitted documents being issued and signed according to the requirements of EDESA. Particularly submission of electronic documents by citizens and organizations may be carried out online by a standard protocol through a public accessible web-based application, through the integrated environment for documents exchange or in any other way for submission of electronic documents, established by a Regulation of the Council of Ministers.

EGA provides the adoption of bylaws to define interfaces, which will ensure the execution of electronic statements and creation of electronic documents in compliance with requirements of EDESA in easy and user-friendly way, including customized for disabled persons.

Users of electronic administrative services and authors of electronic statements according to EGA shall identify themselves by their unique identifier unless the law provides that the use of specific administrative services does not require identification. Integrity and authorship of electronic statements in connection with electronic administrative services is established by electronic signature, created according to EDESA

subject to the observance of any other normative requirements, unless the law provides otherwise. For the use of electronic administrative services EGA requires that certificates of electronic signatures are issued with accurate indication of the full name of the signatory and when the certificate contains data about the holder – its full name. If the certificate of electronic signature specifies that the applicant acts on behalf of another person, then the authorization shall be also mentioned in the certificate, and if authorization of the applicant results from other authorized persons, it shall contain data about these persons. In case certificate for electronic signature is used, which does not contain data about the relevant authorization, the applicant shall specify in the electronic statement that he acts on behalf of the receiver of the electronic administrative service. Every provider shall enable the signatories to specify in the electronic statements the capacity in which they act.

EGA obliges the users of electronic administrative services to accept electronic statements from the provider for receipt confirmation and for the result from the verification of the validity of submitted documents. In connection with the provided services, the user shall specify e-mail address for receiving electronic statements from the provider. In case that the user changes its address without notifying the provider or he has provided wrong or non-existing e-mail address, any messages sent to the specified address will be considered duly received.

The Act empowers the Council of Ministers to provide by regulation for the purposes of e-Government the use of a special e-Mail box, created for every citizen and organization willing to communicate electronically with the public administration. The information system for electronic statements exchange by e-mail shall be maintained by the Ministry of State Administration and Administrative Reform.

In addition to the obligation to specify correct e-mail address every user of electronic administrative service shall communicate to the provider any changes in the declared circumstances, referring to the representative authority and the consent for receiving electronic statements.

For every submission of electronic statement the Act provides immediate verification of the applicant's identity by comparing the applicant's name, indicated in the statement and the author's name, contained in the certificate of electronic signature and verification in the relevant administrative body, responsible for the personal registration of physical persons whether the

unique identifier (Personal No/ BULSTAT) of the applicant indicated in the statement corresponds to the name indicated by the applicant. Validation of identity of legal entities shall be made by check in the relevant registers of legal entities. If the technology allows so, these verifications shall be made automatically. The law provides an exception from the requirement for validation of the applicant's identity when the use of specific administrative service does not require applicant's identification.

A key requirement of EGA in connection with the reform in the administrative service provision is that all statements of citizens, acts of the court, as well as other acts of administrative and other bodies, submitted as hardcopies, are entered in the information system of the relevant administrative body by scanning them in a readable way. Thus the electronic exchange of these documents between administrative bodies will be enabled.

Receiving electronic documents

The Act sets a rule whereby an electronic statement shall be considered received by the provider of electronic administrative services when it is received in its information system or in the integrated environment of document exchange. The risk of errors occurred during transmission of the statement to the service provider is borne by the applicant. In case a document submitted by electronic means does not comply with the established format or the applicant may not be identified, a message will be sent to the applicant that receipt is not confirmed and the specific reasons thereof. For every incoming valid electronic document received in the administrative body, an automatic receipt confirmation will be generated and sent to the applicant, containing registration number, time of receipt of the electronic document and information about access to the received electronic document. Confirmation shall be in Bulgarian language in the Cyrillic alphabet with transliteration in the Roman alphabet. It could be also made in some of the official languages of the European Union. Confirmation shall be signed and sent to the applicant's e-mail.

Upon receipt of any submitted electronic document the provider of the relevant electronic administrative service shall check the validity of the request and the completeness and accuracy of submitted data and in case that any irregularity is established, it shall send an electronic message for its rectification, specifying the deadline thereof.

Sending and storing electronic documents

EGA provides that electronic statements of providers, addressed to users of electronic administrative services, shall be sent to the e-mail addresses, specified by the users. As to administrative bodies, EGA provides additional requirement that all received and sent electronic documents shall be saved in the information system of the relevant administrative body.

Inner electronic administrative services

In pursuance of the fundamental principles, proclaimed in the EGA, all administrative bodies, persons carrying out public functions and person providing public services, unless the law provides otherwise, are obliged to provide to each other electronic administrative services, connected with the execution of their authorities and with the provision of electronic administrative services to citizens and organizations. Inner electronic administrative services, according to EGA are internal administrative services, which may be requested and/or provided remotely by electronic means, offered by persons carrying out public functions and organizations providing public services to each other and to administrative bodies. Such services may be also provided by the administrative bodies to the persons carrying out public functions and organizations providing public services.

EGA provides that inner electronic administrative services shall be provided through the integrated environment for electronic documents exchange, which shall be implemented and maintained by the Minister of State Administration and Administrative Reform.

Every administrative body shall request inner electronic administrative services from the competent administrative bodies by submitting standard queries based on the technological description of the relevant services (XML), entered in the Electronic Services Register and the relevant competent authorities shall provide the service immediately in the standardized format.

Internal turnover of electronic documents

Rules for internal turnover of electronic documents and paper-based documents shall be established by a Regulation of the Council of Ministers, as well as by the internal rules for internal turnover of electronic documents and paper-based of every administrative body.

Interoperability and information security

The EGA arranges the basic requirements for interoperability and information security to ensure the provision of high-quality service to citizens and organizations and the normal functioning of the administrative bodies. According to EGA the provision of inner electronic administrative services and exchange of electronic documents between administrative bodies, persons carrying out public functions and organizations providing public services shall be made in an interoperable way and the general requirements for interoperability and information security shall be established by a Regulation of the Council of Ministers. The law also introduces provisions for ensuring integration of the national information system with the systems of the Member States of the European Union in order to enable provision of cross-border electronic administrative services.

To ensure interoperability the administrative bodies shall apply the specified uniform standards and rules and shall ensure that their information systems maintain the technological and functional parameters specified therein. Further for the purpose of ensuring semantic interoperability of the electronic document exchange between administrative bodies, provisions are made for harmonizing all data objects, subject to storing in databases or in registers and formalization of all data and administrative services to ensure automated exchange between administrative bodies and data processing. All formalized data and formalized descriptions of electronic administrative services shall be entered in the register of information objects, respectively in the register of electronic services.

EGA obliges the administrative bodies to ensure information security of their information systems based on the requirements and the safety standards. To ensure interoperability and information security the administrative bodies shall use information systems, certified by accredited persons.

Last but not the least all information systems of the administrative bodies shall maintain functionality and interfaces for automated transmission, respectively servicing, of standardized queries for electronic administrative services.

Interoperability registers

To ensure interoperability EGA provides creating and keeping the following registers:

Register of standards

This register will contain technical standards to be applied by administrative bodies for provision of electronic administrative services and for provision of interoperability, information security and automated exchange of information and documents between administrative bodies and will be kept by the State Agency for Information Technologies and Communication.

Register of information objects

This register will contain all information objects (single or composite data, collected, stored or processed in execution of the powers of any administrative body) and will be kept by the Minister of State Administration and Administrative Reform. Standardized descriptions (in XML format) of every information object, which is collected of created by any administrative body, are subject to registration in this register.

Electronic Services Register

The Electronic Services Register as an integrated centralized electronic data base, controlled by an information system, and contains description (in XML format) of all electronic administrative services and inner electronic administrative services, provided through the integrated data exchange environment and in compliance with standardized description of information objects, entered in the Register of information objects. It shall be kept by the Minister of State Administration and Administrative Reform. According to EGA every administrative body shall submit to the Electronic Services Register a standardized description of all electronic administrative services and inner electronic administrative service, which the relevant administrative body provides.

Supervision

The overall control on the observance of EGA is assigned to the Minister of State Administration and Administrative Reform, and the control on the provision of interoperability and information security – to the Chairman of the State Agency for Information Technologies and Communications.

By-laws

Being an act directed to legal regulation of technological processes featuring great dynamics of development and improvement the bill makes provisions for the adoption of a number of by-laws (regulations) to ensure adequacy of the current regulation toward the quickly changing technological basis of the processes, connected with e-Government. Most of the envisaged bylaws are presently enacted by the Council of Ministers. They develop further the principles of the law and provide the dynamic regulations for implementing the Act.

The specific bylaws, which were adopted in pursuance of the Act, are the following:

Regulation on the Electronic Administrative Services

This Regulation governs the general requirements for the provision of electronic administrative services; the methods of electronic payment with regard to the provision of electronic administrative services; the technical requirements for providing access to electronic administrative services and policies of the providers of electronic administrative services for used graphic and other interfaces of the information systems; the interfaces, methods and rules for submission of electronic documents by citizens and organization in connection with the provision of electronic administrative services; the formats and the mandatory requisites, which the electronic documents shall comply with; the special e-mail, created for every citizen and organization in an information system for electronic statements exchange by e-mail, kept by the Ministry of the State Administration and Administrative Reform for the needs of e-Government; the special methods of identification of applicants;

The Regulation also governs the standard for reporting the astronomical time by the information systems of the administrative bodies, the persons carrying out public functions and the organizations providing public services.

Regulation on the Certificates for Electronic Signatures in the Public Administration

The Regulation governs the rules for obtaining, use, renewal and termination of certificates of electronic signatures in the administrative bodies.

Regulation of the Integrated Environment for Electronic Documents Exchange

The Regulation shall govern the requirements to integrated environment for electronic documents exchange.

Regulation on the Internal Turnover of Electronic and Paper-based Documents in the Administrations

This Regulation governs the requirements for storage of all received and sent electronic documents in the information system of every administrative body and the general rules applicable to the internal turnover of electronic documents and paper-based documents in the administrative bodies.

Regulation on the Interoperability and Information Security

The Regulation is expected to be enacted within a month. It shall govern the general requirements to interoperability and information security; the keeping, storing and access to the register of the standards; the safety requirements and standards, which the information system shall meet for data entry, sending, processing, access, exchange, storing and backup; the general information security measures to be undertaken by the administrative bodies; the methods and the rules for evaluation of the compliance of the information systems with the requirements for interoperability and information security; and the methods of accreditation of persons, attesting the compliance of information systems with the requirements to interoperability and information security and the requirements to their activity.

Regulation on the Register for Information Objects and Electronic Services

The Regulation governs the keeping, storing and access to the Register of information objects; the technical standard for description of information objects; the keeping, storing and access to the Electronic Services Register; and the technical standard for description of electronic administrative services and inner electronic administrative services, provided through the integrated data exchange environment.

Tariff for the State Fees for Accreditation of Persons, Attesting the Compliance of the Information Systems with the Requirements to Interoperability and Information Security is also enacted by the Council of Ministers

E-Government Developments

GIIC Tokyo Resolution for Powering Green in Future of ICT

The Global Information Infrastructure Commission (GIIC) is a confederation of chief executives and other officers of business firms engaged in the development, manufacture, deployment, operation, modernization, financing, and use of services and products based upon information and communications technologies. These executives head enterprises headquartered throughout the world and, as GIIC commissioners, are convinced that ICT-based capabilities have given rise to a rapidly evolving new era, denoted most frequently as an "information society," and widely regarded as one that transcends borders and is an increasingly powerful force in all societies. As such, they acknowledge and are dedicated, through the instrumentality of the GIIC, to fulfill the essential role that must be played by the private sector (by virtue of its technological, human, and financial resources) to foster the development of an information society that is sustainable, equitable, and enhances the economic and social well-being of people everywhere.

Toward these ends, the GIIC mission is to: (1) advocate the promulgation, adoption, and enforcement of representative public policies; (2) convene forums within which to address public policy challenges and different approaches thereto; (3) collaborate with other sectors of society; (4) conduct formal studies; and (5) publish and in other ways share and disseminate the conclusions of its deliberations and research. The organization held its 2008 annual meeting in Tokyo, hosted by Naoyuki Akikusa, Chairman of Fujitsu Limited. A main output of this event was adoption of the GIIC Tokyo Declaration.

The GIIC Tokyo Declaration

"The purpose of the GIIC forum this year has been to address the global awareness of the challenge of climate change, and to assess the contributions that information and communications technology (ICT) can make to help reduce the burden on the environment with a focus on the actions required by ICT sector stakeholders. The main focus points are: (1) to reduce the burden of ICT products and services by introducing environmental friendly design and innovation; and (2) pervasive models of business and social applications of ICT to market efficiencies, business culture, and social processes.

As a result of the forum, GIIC executives have concluded that the ICT sector has a mixed impact on the environment, and will continue to remain a challenge to the environment as ICT becomes increasingly central to economic growth and innovation. Currently, the ICT sector contributes approximately 2% of the global greenhouse gas (GHG) volume, principally as a result of the environmental burden of electrical energy production. As economies leverage ICT for economic sustainability and advancement, there is a risk that the growing prevalence of ICT-dependent appliances will increase that percentage and add to the perception that ICT is an overall drain on environmental health, even while it is a central driver of economic health.

To respond to this challenge, the ICT sector has addressed the issue of Climate Change through various power-saving technologies and an embrace of energy efficient multi-core processors. The ICT sector is committed to setting its own "house in order" through a focus on efficiencies in computing design, ICT sector energy use, while also emphasizing the positive impacts of ICT on efficiencies in other sectors of the economy. Absent a change in the energy-consumption matrix, the GIIC recognizes that energy consumption could develop into the new "digital divide" as the ICT sector attempts to service its next billion users.

Given that ICT is a driver of economic growth, but the state of our environment is impacted by the energy demands of ICT, it is clear to the GIIC that economic growth and environmental stewardship are linked. The expanded utilization of ICT will be as vital to economic growth in the 21st century as the use of fossil fuels were to economic growth in the 20th century. But our industries must recognize that the environmental burden of ICT use in the future cannot follow the same path that it has in the past – greater efficiencies must be realized in enabling other industries.

Achieving sustainable ICT growth coupled with environmental stewardship is critically important for the reduction of GHG production even as economies turn to ICT for innovation in the delivery of products and services. ICT has a tremendous potential to mitigate the challenges of climate change, and therefore "ICT is a solution, not the problem". ICT has historically been viewed as a tool to advance productivity. We found and confirmed that the use of ICT can change the behavior of business and consumers, and through these changes, ICT can help the environment without sacrificing economic output. The GIIC executives have agreed to commit to minimize the burden of ICT products and services, and to maximize the helpful effects by using ICT products and services, and therefore, maximizing the difference between the burden and the benefit of our sector. We have agreed to these commitments as the Tokyo Declaration and have established the GIIC Working Group on ICT and Environmental Stewardship to monitor developments and report on members' environmental initiatives and activities."

Background

The GIIC has been addressing, since its outset in 1995, major issues facing the information and communications technologies and the information society and that there may be no more critical and relevant challenge today than to make the case of the relevance of ICT for solutions to the various issues associated with Climate Change.

One example, clearly outlined in discussions of the World Economic Forum, for example, is the positive impact of the shift away from physical goods to the delivery of digital services. The entertainment industry serves as a model of this shift.

The GIIC recognizes that businesses around the world are starting to respond as important organizations are raising awareness on this issue. The Stern Review (October 2006) in the United Kingdom has been the catalyst for the British industry to make recommendations on climate change. At the UN Internet Governance Forum in November 2007, a major speech raised the issue of "Internet and Environment". In January 2008, the World Economic Forum discussed the issue of climate change as the most important shift affecting business, technology, society, and the global economy. As a result, 41 CEOs of global ICT companies attending the forum agreed on a preliminary report.

The GIIC also acknowledges the work of international organizations, such as the World Bank, the Organization for Economic Cooperation and Development (OECD) and the International Telecommunication Union (ITU). At our forum, we heard leading experts talk about ways to address the ICT aspect of climate change, and acknowledged the common challenges.

The reduction of the burden on the environment by ICT itself, and the benefits

By using ICT have to be further studied and analyzed, and then better used and understood in order to advance progress in this area to the next level.

Advocacy

The messaging of climate change efforts by the ICT sector, and the GIIC commissioners, in particular, needs to be clear and concise. Climate change is of great concern to the entire ICT sector. For example, the energy demands of data centers alone threaten to hamper the continued pace of growth of the networked economy. ICT industries, typically as component companies, have only begun to consider the messaging of these concerns and focus on internal challenges. These worthwhile efforts, such as Green Grid, Climate Savers, and Green IT Promotion Council of Japan must be matched with appropriate outreach strategies to be accepted by consumers.

ICT solutions should be more clearly explained to capitalize on the environmental benefits of the transition to an information society. The replacement of physical goods with networked services is perceived as an economic productivity-boosting influence rather than a tool to address climate change. It should be recognized as both.

Policy makers could benefit from the informed and expert opinions and experience of the private sector even as they contemplate the correct policies to address climate change. For example, the Federal Trade Commission of the United States is considering how best to regulate the "green" market claims of products. In

Japan, the Ministry of Internal Affairs and Communication organized a study group to discuss the role of ICTs for global warming issues last year and published a final report on April 10. The study group estimated the number of CO_2 reduction when ICT is aggressively used, and then concluded that the effective use of ICT in various fields will contribute to the reduction of CO_2. Also, the "Green IT Initiative Meeting" held by the Ministry of Economy, Trade and Industry invited CEOs of leading IT companies in December 2007 to discuss and to agree on the "Green IT Initiative" which promotes lower electricity use of ICT products, lower energy consumption of society through ICT use, and activities to promote these goals.

The ICT sector should inform policymakers and the public of the expected realistic benefit of further ICT adoption and of the internal efforts to meet our environmental challenges.

Suggested recommendations are:

Lower the Environmental Impact of ICT

Lowering electricity consumption of ICT

ICT sector can lower electricity consumption by identifying and replacing power-hungry components, and adding sustainability to selection criteria for equipment and services. Both industry and government should strive to promote innovative technology development toward next generation low-power IT products.

Responsible Internet Use To Combat Spam

Communication carriers, Internet Service Providers, and other network operators incur a large cost for additional energy and other mechanisms to deal with Internet spam. For the healthy development of the global Internet, we should pay more attention to assessing how best to combat Spam in order to reduce the energy cost factors and help the environment.

Lower the Impact by using ICT

ICT for Measurement and Compliance

Sensor technologies should be promoted for the purpose of capturing and quantifying GHG impact, enforcing compliance models, and rewarding good actors for their efforts to reduce GHGs and the overall effects of climate change.

ICT as Enabler for New Business Practices

By using ICT as the enabler for new business practices across the enterprise, it will have a transformational effect. This will aid business growth and enhance the reputation of the company as an environmentally-responsible organization. It is necessary to introduce a framework for an organization/company to be evaluated, by visualizing the ICT contribution to the environment, so that environmental-friendly organizations and activities can be recognized fairly.

Achieving the Goal

Exchange of Information

The ICT industry must summarize the studies and analyses and better exchange the information with all parties. Then, the two aspects, "of ICT" and "by ICT", can to be well understood by everyone. By doing this, one can communicate a clear message on its role on climate change to those outside of the industry. This active engagement will demonstrate a commitment on the part of the industry to seek solutions which reflect positive business opportunities and good environmental stewardship.

Development of a Roadmap

Leaders of the ICT industry and public sectors, particularly in emerging markets , must work together to develop and implement new roadmaps that define ICT use as a tool for clean business and economic growth and competition. While not every economy can leapfrog over old infrastructures to new infrastructures, some infrastructures – such as wireless communications – or energy-saving ICT products and data centers are better positioned to enhance economic growth while promoting concepts that minimize the environmental impact of 20th century industrial practices.

Market-Based Approaches

To achieve the goal, market-based approaches should be favored to reward the integration of ICT into economic activities, and foster competition and investment policy based on the adoption of practices that reduce greenhouse gas (GHG) and provide other "green" innovations and products. We expect government to initiate policies to support and stimulate such market-based approaches.

Early Action Needed

Viewed from a long-term perspective, the costs of early action are far less than the costs of delaying action. Policymakers, businesses and users all need to play their part to implement the ambitious policy reforms and practices which will deliver the most cost-effective environmental improvements. As an immed-iate next step, the GIIC urges the G8 ministers to raise and discuss the issue of ICT and sustainable development at the July 2008 G8 Hokkaido Toyako Summit, for the purpose of better understanding the relationship between ICT and the environment and this topic's future impact on sustainable development."

E-Government Developments

ITU Asia-Pacific Forecast Bullish for ICT Industry and Broadband

ITU Telecom Asia 2008, held in Bangkok, focused on new business opportunities to sustain growth in the dynamic ICT industry in the Asia-Pacific region as well as on the younger generation of users and innovators.

With over two billion telephones, including 1.4 billion mobile subscribers, and 42% of the world's Internet users, Asia is a region of superlatives in the ICT arena. It is also the world's largest broadband market with over 39% share of the world's total at the end of 2007. The theme of the event was "New Generation, New Values" addressing the demands of a young population that is clearly setting the tone for a new generation of ICT developers and development.

Over 170 countries from around the world occupied the exhibition center. Business was reported to be brisk with trade visitors and exhibitors meeting on the show floor as well as national pavilions of China, France, Korea, Japan, Russia, Thailand and the United States. The future development of the telecommunications and ICT sector were addressed by Ministers from the region and beyond at a roundtable discussion. A high-level dialogue followed with industry and business leaders focusing on investment and the market environment, government and industry interests, as well as public/private partnerships and future cooperation.

"This week has seen enormous energy focused on shedding light on the issues which confront the telecommunications and ICT sector – issues which we sought to explore through the notion of new generation, new values," ITU Secretary-General Hamadoun Toure said. "Business opportunities flourished within the exhibition and high-level exchanges with ministers. It is evident that win-win public-private partnerships are a reality."

The Minister of ICT Thailand, Mun Patanotai said he was delighted that ITU Telecom Asia was held in Bangkok. "ICT may be seen as the central nervous system of the new world economy. Over the last decade ICTs have been expanding at a great speed, fostering economic growth and changing the way people work, communicate, entertain, do business and organize their lives. The Asia-Pacific region is without doubt moving fast in telecommunications services and infrastructures."

ITU launched its key Telecommunication/ICT Indicators Report for the Asia-Pacific region at ITU TELECOM ASIA 2008, which got under way today in Bangkok, Thailand. The Report focuses on broadband connectivity as a vehicle for content to drive development and build a knowledge-based information society.

While some Asia-Pacific economies are world leaders in information and communication technologies (ICT) where broadband access is ultra-high speed, affordable and close to ubiquitous, in most of the region's poorer countries Internet access remains limited and predominantly low-speed. The Report finds evidence that ICTs and broadband uptake foster growth and development, but the question remains as to the optimal speed that should be targeted in view of limited resources.

Asia-Pacific: a region of superlatives

Asia-Pacific is a region of superlatives when it comes to ICTs. By early 2008, the total number of telephone subscribers had passed the two billion mark.

The region is home to almost half the world's fixed telephone subscribers. It has 42 per cent of the world's Internet users, and with 1.4 billion mobile cellular subscribers, it also has the largest mobile phone market share (Fig. 1).
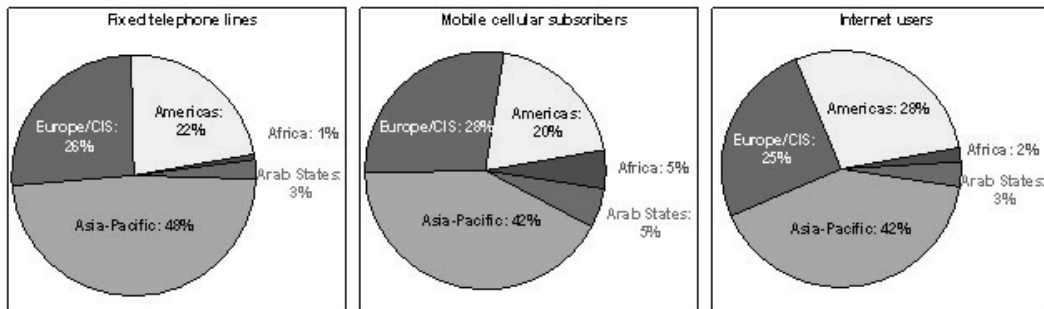
Source: ITU World Telecommunication/ICT Indicators database

Fig. 1. Distribution of ICTs by world regions, 2007.

By mid-2008, China and India alone had over 600 and 280 million mobile cellular subscribers, respectively, representing close to a quarter of the world's total. Average annual mobile growth over the last five years is close to 30 per cent, and with mobile penetration approaching 40 per cent, almost two out of five inhabitants in the region enjoy the benefits of mobile telephony today. Non-voice applications via mobile phones are increasing rapidly and now account for more than one quarter of the region's main operators' mobile revenues. Text messaging – or SMS – is the predominant non-voice, mobile application. Filipinos send a staggering 650 text messages per subscriber per month, the highest in the world. SMS has emerged as a significant alternative to computer-based e-mail in the region's low and lower-middle income economies. The Report finds that other mobile data applications, such as cash transfers and online purchases are creating new business opportunities in poor countries.

Asia-Pacific is a global broadband leader

The area in which the region really stands out is the uptake of advanced Internet technologies, especially **broadband** Internet access. The Asia-Pacific region is the world's largest broadband market with a 39 per cent share of the world's total at the end of 2007. In terms of broadband access, Asia-Pacific has made remarkable progress in the past few years, with subscriber numbers growing almost five-fold in five years: from 27 million at the beginning of 2003 to 133 million at the start of 2008.

In the region's high-income economies, ubiquitous access is progressing through a competitive race to provide ever faster fixed broadband access. Operators in Hong Kong (China) and Japan have launched

one-Gigabits per second (Gbps) broadband and triple-play services aimed at the residential market, featuring applications such as Internet telephony and television. The Republic of Korea leads the world in terms of the percentage of households with fixed broadband access, and no less than five economies in the top ten are from Asia-Pacific (Fig. 2). The Republic of Korea, Hong Kong (China), and Japan also lead the world in terms of the proportion of households with fibre optic connections, essential for supporting the next generation of ultra-high speed Internet applications.

These high-income economies are also leaders in terms of third generation (3G) mobile cellular deployment. Fixed and mobile broadband technologies complement each other and users enjoy continuous high-speed Internet access. In Singapore, a ubiquitous Internet access plan combining unlimited 8 Megabits per second (Mbps) fixed broadband, 2 Mbps mobile broadband and access at some 800 Wi-Fi hotspots is available for just USD 35 per month.

At the other extreme, in most of the region's low and lower-middle income economies, high-speed Internet access is limited to urban areas at best, typically expensive, and often not available at all. The regional broadband divide is striking, with poor economies having a close-to-zero broadband penetration, compared to that of rich economies where one in four persons is a broadband subscriber (Fig. 3).

The gap in available broadband speeds between rich and poor countries is as wide as broadband penetration. In Japan, the Republic of Korea and Hong Kong (China), the minimum advertised broadband speed is faster than the maximum broadband speed in Cambodia, Tonga, Laos and Bangladesh.

While in low and lower-middle income economies mobile phones have become a substitute for the shortage of fixed lines, they are not yet fulfilling the po-
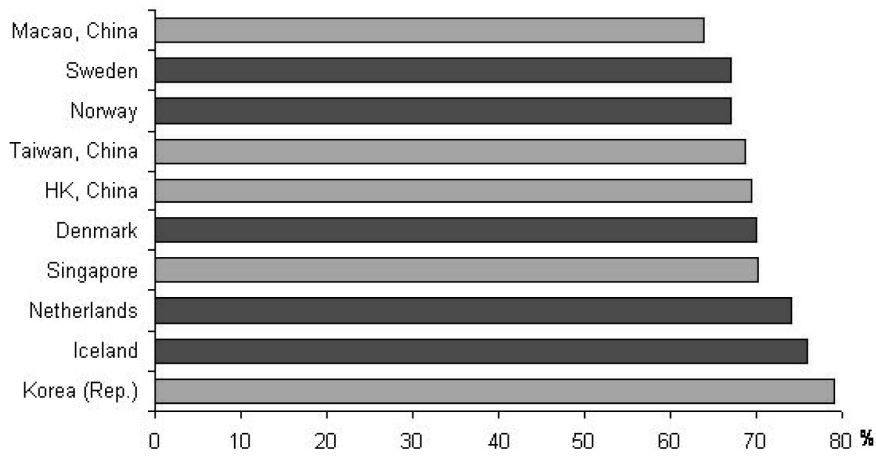
Source: ITU World Telecommunication/ICT Indicators database

Fig. 2. Percentage of households with fixed broadband Top ten economies 2007.
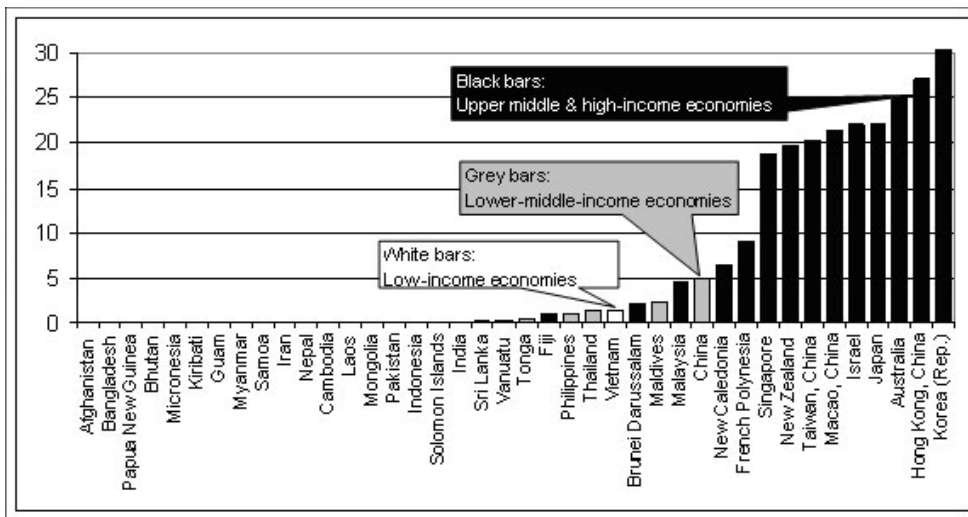
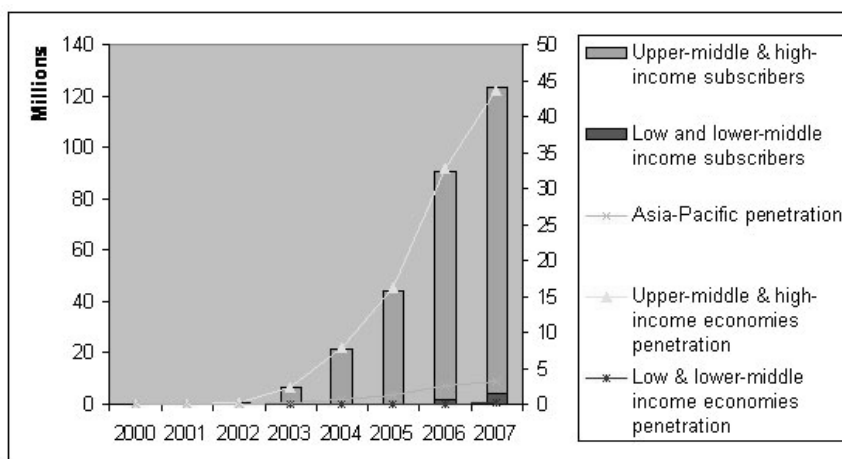**Source:** ITU World Telecommunication/ICT Indicators database

Fig. 3. Fixed broadband Internet subscribers per 100 inhabitants, 2007.

tential of broadband access. By the end of 2007, only Indonesia, the Maldives, the Philippines and Sri Lanka had commercially deployed WCDMA networks. The region's two largest mobile markets, China and India, have yet to launch mobile broadband. By the end of 2007, there were over 120 million mobile broadband subscribers in the region (Figure 4), but almost all (97 per cent) were in high income economies.

While the region's high-income economies are pushing the frontier of broadband bandwidth to a point where applications have yet to catch up, many Asia-Pacific developing economies are bandwidth starved,

inhibiting the development of their information societies.

The ITU Report argues that broadband uptake enables a range of socially desirable and valuable online services in areas such as government, education and health. The use of broadband technologies can help overcome many of the basic development challenges faced by poor countries. The Report provides a number of examples where broadband connectivity has acted as a catalyst for development. These include the provision of education through distance learning in the Solomon Islands, the creation of jobs through business incubators

Source:ITU World Telecommunication/ICT Indicators database

Fig. 4. Mobile cellular broadband subscribers in Asia-Pacific.

for women in China, and the supply of communication services for disaster management in Myanmar.

The level of economic development plays a key role in broadband uptake since substantive investments are necessary to deploy high-speed infrastructure. However, the Report identifies a number of obstacles that policy-makers must address to overcome the broadband gap. Governments must recognize its importance and formulate concrete broadband policies and targets, while providing incentives for achieving them. Broadband prices could be reduced by encouraging new operators to enter the markets. Stimulating competition, liberalizing the building blocks necessary to develop a broadband business, and opening up the way for new technologies – including 3G and WiMAX – are important success factors to ensure higher broadband penetration.

Asia-Pacific Telecommunication/ICT Indicators 2008

The Asia-Pacific Telecommunication/ICT Indicators 2008 Report is an invaluable information tool to inform and guide policy-makers, investors, analysts and other observers of the region's telecommunications landscape. It contains an extensive overview of key sector developments, and includes a number of recommendations to sustain growth and deepen access to ICTs in the region.

Besides the analytical section, the Report includes 20 regional tables covering key telecommunication/ICT indicators (2006/2007 data), 43 individual country pages with a five year profile from 2003-2007, and a directory of telecommunication ministries, regulators and operators in the region.

E-Government Developments

Support for Improving WTO Commitments for Market Access for Services

WTO Director-General Pascal Lamy, in his capacity as Chair of the Doha Development Round Trade Negotiations Committee, organized a minister-level Services Signalling Conference in Geneva on July 30, 2008, of 32 WTO members to "exchange indications on their own new and improved services commitments, as well as the contributions expected from other members." Lamy reported that "participants stressed the central importance of the services sector for economic and social development." Virtually all major sectors were covered during the conference. In particular, financial services, telecommunications, transport and a range of professional services were frequently mentioned. There were also many indications of willingness to facilitate access in environmental services, in line with the objectives of the Doha Ministerial Declaration.

All modes of supply were regularly mentioned by participants. For example, most indicated their readiness to improve access conditions for Mode 4. The need to clarify, reduce or remove economic needs tests and to act accordingly was stressed. Expressions of willingness were given by several participants to close the gap between applied regimes and existing commitments in a number of cases. As well, there was support for establishing effective disciplines on domestic regulation, in accordance with the timeless of Annex C of the Hong Kong Ministerial Declaration.

Earlier in 2008, Lamy spoke at a ceremony celebrating the 10th anniversary of the WTO Agreement on Basic Telecommunications. He said: "in the last 10 years Internet use has increased by 1500%. Mobile phone subscribers have increased 20 fold and world teledensity has moved from below 15% to over 60%. The rapid evolution of the telecommunications sector, both from regulatory and technological perspective, has brought about lasting changes in our economies and societies at large and is one reason that this sector merits our special attention today." "Although the number of commitments to open national telecom markets was low at first, at present over 100 WTO members have commitments to open markets in some or all telecom services," Lamy concluded.

SERVICES SIGNALLING CONFERENCE, GENEVA, JULY 30, 2008

Report by the Chairman of the Trade Negotiating Committee, Pascal Lamy

As WTO Members advanced towards the establishment of modalities for Agriculture and NAMA, with a view to moving the DDA negotiations into their final phase, many stressed the need to gauge progress in the services request/offer negotiations. Since the revised services offers will be submitted only at a later stage, it was agreed to hold a Signalling Conference at Ministerial level. The Conference provided Members with the opportunity to exchange indications on their own new and improved commitments as well as the contributions expected from others. It was understood that, while the signals exchanged were important in measuring progress, they would not represent the final outcome of the negotiations. They would instead provide comfort to Members by reflecting real progress in the services negotiations.

On Saturday, 26 July, the Conference was held among the following Members:

Participants stressed the central importance of the services sector for economic and social development and, thus, the need to help promote its future expansion through a successful conclusion of these negotiations. It was also recognized that, while Members proceeded with services liberalization in their economies,

Argentina	India	Pakistan
Australia	Indonesia	Philippines
Bangladesh	Japan	Singapore
Brazil	Korea	South Africa
Canada	Lesotho	Switzerland
Chile	Malaysia	Chinese
China	Mauritius	Taipei
EC	Mexico	Thailand
EC Presidency (France)	Morocco	Turkey
Egypt	New Zealand	United States
Hong Kong, China	Norway	Uruguay

the gap between existing levels of openness and current commitments continued to widen. Some participants stressed that a satisfactory outcome of the services negotiations could be one of the most significant dividends of the DDA, as a development Round.

Participants clearly understood that the signals exchanged would be subject to a satisfactory conclusion of the DDA. Also, the Conference was without prejudice to the positions of non-participating Members, nor did it affect their right to benefit from future resulting commitments on an MFN basis.

As previously agreed, my Report will summarize the signals exchanged by sectors and modes of supply, but without attribution to individual Members.

BUSINESS SERVICES

Business services were frequently referred to during the Signalling Conference. Virtually all delegations mentioned either business services in general or specified one or more of the sub-sectors, in which they are ready to expand or improve current commitments. Given the particular nature of business services, often requiring the physical presence of individual professionals, a number of signals included the easing of restrictions on Mode 4, temporary presence of natural persons. Other signals focused on improving or locking-in current conditions for supplying services cross-border. Reference was made in this context to back-office operations, which extend across many sub-sectors, and to call-centre services.

The following areas were mentioned in particular:

– *Professional services:* Legal; accounting; architectural and engineering; integrated engineering; medical and dental; veterinary; and services provided by midwives and nurses.
– *Computer and related services*
– *Research and development services*
– *Rental and leasing services*

– *Other business services*: Advertising; market research and opinion polling; management consulting; technical testing and analysis; services incidental to agriculture; services incidental to mining; services incidental to manufacturing; printing and publishing; photographic; packaging; convention services; and further activities such as translation and interpretation, design, or mailing services.

Many envisaged improvements focused especially on 'modern services', such as computer services, research and development, and market research services. Services incidental to agriculture and services incidental to mining were frequently mentioned as well.

A few participants also listed a number of individual business services among the areas in which they expected commercially relevant commitments from others. The particular relevance of cross-border supply (Modes 1 and 2) and presence of natural persons (Mode 4) was mentioned in this context.

POSTAL AND COURIER SERVICES

A number of participants indicated their readiness to undertake new commitments in postal and courier services. In several cases, express delivery services were singled out. Most of the signalled improvements involved commitments on commercial presence with higher levels of foreign equity participation. In one case, it was indicated that all foreign equity limitations would be removed. In another, up to 51% foreign equity would be allowed. A few participants expressed willingness to clarify the coverage of their postal monopoly so as to better define the scope of existing commitments. In this connection, one delegation also envisaged undertaking additional commitments related to the independent regulation of the sector.

TELECOMMUNICATION SERVICES

Many participants were willing to improve existing, or undertake new, commitments across the range of sub-sectors in both basic and value added services. Few envisaged including satellite services in their commitments or removing existing limitations. Several participants indicated that limitations on Mode 3 would be removed completely, so as to allow up to 100% foreign ownership. Others signalled that foreign equity limitations would be improved substantially. In one case, it was indicated that up to 74% foreign ownership would

be permitted instead of 49%, while in another the ceiling would be raised to 60%. Some indications were also given of the removal of all limitations in mode 1; and one participant stated that his government would be willing to commit in full to the Reference Paper on regulatory principles.

Many participants requested new commitments to cover both basic and value added services. Several referred to the elimination or relaxation of foreign equity caps, for example for fixed line and mobile telephony. One participant stressed that there should be no bindings below 51% foreign ownership. The adoption of the Reference Paper in full was also requested from those that had not yet done so.

AUDIOVISUAL SERVICES

One participant signalled new or improved commitments on film projection and production services. The same participant also expected deeper commitments from others on private motion picture production, projection and distribution services; broadcasting services; sound recording services; and promotion and marketing services. Another expressed general interest in improved commitments in audiovisual services.

CONSTRUCTION AND RELATED ENGINEERING SERVICES

Statements concerning construction and related engineering services were almost equally divided between signals of own improvements and expectations that other Members reciprocate in their revised offers. Virtually all modes were mentioned in this context.

DISTRIBUTION SERVICES

Signals given related to virtually all sub-sectors, from commission agents' services and retail trade to wholesale trade and franchising. There were indications of increased foreign equity participation or new commitments at high equity levels, up to 100% in certain cases. The importance of liberal conditions for cross-border (electronic) supply of retailing services was also acknowledged. At least one participant intends for the first time to schedule commitments in this sector.

Several participants invited others to upgrade their schedules in this sector, emphasizing the importance of distribution services for trade in goods; farm products and cars were mentioned as cases in point.

PRIVATE EDUCATION SERVICES

A few participants indicated readiness to undertake new commitments in private education services and to remove a number of existing limitations, which discriminate against foreign education providers. New commitments were envisaged for private primary, secondary and tertiary education, as well as for language, corporate, and technical and vocational training. In one case, it was indicated that all limitations on cross-border supply and commercial presence for (non-public) higher education services would be removed. In another case, the national treatment restrictions for private higher and other education would be eliminated.

There were indications from a few participants that they would be seeking more commitments in private education services. They called for significantly improved market access through the removal or relaxation of existing restrictions, including those on national treatment.

ENVIRONMENTAL SERVICES

Many indications of improvements were given across the range of environmental services, including: sewage services; sanitation services; refuse and solid waste disposal services; waste water management services; soil remediation and clean-up; environmental laboratory services; and other services related to air pollution control and noise abatement. In addition to expanding sectoral coverage, several participants were willing to expand the modal scope of their commitments, and to reduce or eliminate restrictions such as joint venture requirements and foreign equity limitations.

Several participants expressed aspirations for new commitments on all modes of supply across the range of environmental services. A specific request was made for commitments on advisory services under Mode 1.

FINANCIAL SERVICES

In financial services, there were many indications of new and improved commitments. These positive signals appear significant, given the importance of financial services in supporting trade in other products and services.

In *banking*, many participants were willing to make new or improved commitments in cross-border supply and commercial presence. With respect to cross-border

commitments, several participants indicated improvements in sub-sectors such as asset management for sophisticated consumers, advisory services, and securities and underwriting. One participant envisaged removing all market access and national treatment limitations for existing cross-border commitments.

With respect to commercial presence, several participants intended to reduce, or remove altogether, restrictions on the level of foreign equity. Individual participants were also ready, *inter alia*, to eliminate a depositary requirement for foreign branches, widen the scope for underwriting and trading of securities, and quadruple the number of branches permitted. Another participant was prepared to bring existing commitments for commercial presence in this sector up to the level of full commitments.

More generally, several participants indicated their intention to liberalize a range of sub-sectors, including derivative products, leasing, asset management, advisory services, and transfer of financial information and data. A few participants intended to expand the coverage of their financial services commitments to substantially all sub-sectors specified in the Annex on Financial Services. Another was ready to adjust the definitions contained in his offer to accord with those contained in the Annex.

In *insurance*, several participants were prepared to make new or improved commitments. With respect to cross-border supply, one participant signalled its willingness to make overall improvements. Another specified his intention to expand the coverage of insurance intermediation to include reinsurance brokers in Modes 1 and 2.

With respect to insurance supplied through *commercial presence*, one participant signalled the removal of a joint-venture restriction, while another was willing to remove a prior authorization requirement for companies and their branches. Some participants indicated improvements of commitments in non-life insurance and insurance intermediation under Mode 3. Others were prepared to upgrade their commitments for insurance services under this mode. Another indication of commitments was made by one participant in relation to reinsurance.

More *generally*, some participants indicated their intention to liberalize insurance broking and agency services, and other auxiliary services. One participant signalled the removal of restrictions on non-life insurance premiums.

Another participant was ready to remove or narrow limitations at sub-national level, and to commit its current domestic ownership framework for financial institutions across *all financial services*.

Participants frequently expressed their desire for others to make or improve commitments in financial services. Some stressed the need for significant progress in this sector. Specific areas where improvements were sought included the reduction of foreign equity limitations, and commitments on cross-border provision of asset management for sophisticated consumers and securities-related services.

HEALTH SERVICES

A few participants were willing to undertake new commitments for hospital and other health care services, including on physical wellness services which would cover traditional Asian medicine and traditional Thai massage. One participant signalled the removal of Mode 3 limitations for health services.

There were indications from a few participants that they would be seeking commitments in Modes 3 and 4 for private hospital services as well as extensions of sector coverage to include spa and wellness services, and traditional Chinese medicine.

TOURISM AND TRAVEL-RELATED SERVICES

Tourism, especially hotel and restaurant services, is the sector that has drawn the highest number of commitments in current schedules. Although these are generally liberal for commercial presence, a few participants signalled scope for further improvements in their revised offers, including extensions in the geographic coverage of commitments and elimination of national treatment limitations. Other positive signals concerned the services provided by travel agencies and tour operators, as well as tour guide services. The same services were identified by at least two participants as priority areas of export interest. A call was also made for liberal commitments on hotel-related activities, such as the provision of management services.

TRANSPORT SERVICES

Many signals were given in transport services, particularly in maritime transport. Like other infrastructural services, transportation is a key determinant for

the competitiveness of other products, especially traded goods.

In *maritime transport* services, several participants signalled new or improved commitments, including for rental of vessels with crew, maintenance and repair services, port services, pushing and towing services, maritime freight transport services, international passenger transport, as well as maritime auxiliary and support services. One participant was ready to extend commitments on commercial presence under Mode 3(b) of the Maritime Model Schedule, covering other forms of commercial presence for the supply of international maritime transport. Another participant signalled new market access in terms of commercial presence for salvage and refloating services, with a foreign equity ceiling of 49%. Other signals referred to the withdrawal of restrictions on the number of licenses in maritime cargo handling services, the complete removal of foreign equity requirements, and the withdrawal of preferences maintained at the sub-national level. An indication was also given by one participant that the scope of reserved cargoes in its existing schedule would be more precisely defined.

Many participants expressed their desire to see new and improved commitments in maritime transport. One delegation stressed the importance of removing or minimizing MFN exemptions affecting this sector.

In *air transport* services, several participants were ready to make improvements in aircraft repair and maintenance, computer reservation systems, and selling and marketing of air transport services. One participant signalled an increase in scope of commitments for air passenger and freight transportation, rental of aircraft with crew, and other supporting services. Another participant envisaged removing MFN exemptions.

In *logistics* services, several participants intended to broaden their commitments to include all modes of transport. Also, several participants sought new or improved commitments for all modes of transport in logistics services.

With respect to *road transport* services, one participant signalled the removal of quantitative restrictions, while another indicated new commitments in this sector. In *rail transport*, one participant envisaged new commitments, and one wished to see commitments from others in *space* transport services.

Some participants signalled an overall improvement in their commitments related to all forms of transport. One participant intended to withdraw a limitation concerning a review mechanism affecting transport services.

ENERGY SERVICES

Many participants indicated that they would be expanding the sectoral and modal coverage of their commitments on energy services. In a few cases, this would include commitments on services incidental to energy distribution, management consulting services, technical testing and analysis services, construction of long distance pipelines and local pipelines, as well the distribution of petroleum and natural gas. Several indications of improvements on Mode 3, and other modes were also given. These included the full or partial removal of limitations on services incidental to mining and drilling; site preparation work for mining; related scientific and technical consulting services; and technical testing and analysis.

Several participants indicated their interest in further commitments on energy services, including activities such as mining, drilling, technical testing and analysis, and related scientific and technical consulting services. They also sought more meaningful market access commitments, particularly in Mode 3.

CROSS-BORDER SUPPLY (MODES 1 AND 2)

Several participants were ready to improve current commitments on cross-border supply either in general terms or with regard to individual sectors, such as accounting and other professional services, financial services (especially financial consultancy services and services destined for sophisticated consumers), and distance learning. One participant expressly referred to the envisaged removal of residency requirements and similar restrictions.

The developmental importance of liberal commitments on cross-border trade was noted several times, and the relevant objectives in Annex C of the Hong Kong Ministerial Declaration ('commitments at existing levels of market access') were recalled. One participant referred to the economic importance of business process outsourcing for developing countries, and stressed the need for ambitious commitments in relevant sectors.

COMMERCIAL PRESENCE (MODE 3)

In addition to what was already covered by sector-specific statements, several participants expressly signalled their intention to liberalize market access and/or

national treatment under this mode, including with regard to current foreign equity ceilings, joint venture requirements, restrictions on branching, and residency requirements for board members. For example, one participant envisaged the abolition of foreign equity ceilings and joint venture requirements for all environmental services, while another signalled a similar move in financial services. With the possible exception of some sensitive sectors, one participant signalled an increase of the generally applicable foreign-equity limitation of 51% in the Uruguay Round schedule (60% in the initial offer) to 70% and even 100% in three sectors. One Member government would be prepared to permit foreign majority ownership subject to approval under relevant laws. Another participant signalled a rise to over 49 % of his country's equity caps for foreign bank subsidiaries; various other financial services are earmarked for increases from 30 to 49%. Reference was also made to an ongoing review of a Member's general investment legislation with a view to cutting red tape and streamlining existing authorization procedures.

In terms of expectations, several participants sought the binding of foreign equity limitations at currently-applied levels, or at least at 51%. The reduction or removal of economic needs tests was also mentioned. Priority sectors of interest included computer services, telecommunication services, construction, and financial services. One representative called for improved investment conditions for small service suppliers from developing countries. Other proposed amendments related to vague entries, including poorly-specified public-utility exceptions, which affected the clarity of current commitments.

PRESENCE OF NATURAL PERSONS (MODE 4)

Many participants acknowledged the importance of Mode 4 in the particular context of a 'development round'. Signals of possible improvements related to virtually all relevant categories, including intra-corporate transferees, business visitors, contractual service suppliers, and independent professionals. Some of the envisaged commitments were de-linked from commercial presence as referred to in Annex C of the Hong Kong Declaration. Several participants also indicated their willingness to extend permitted periods of stay; clarify, reduce or eliminate economic needs tests; remove definitional uncertainties; and adjust current entries to prevailing scheduling conventions. One participant specified the quota, in terms of minimum num-

ber of persons, that would replace current economic needs tests. In terms of particular professions, references were made, *inter alia*, to various business services (architectural and engineering services, medical professions, computer services, R&D services, opinion polling services, etc.). In addition, many delegations referred to the particular categories of installers and maintainers of machinery and industrial equipment. There were also indications that current quota limitations would be increased and, in one case, that the geographic coverage of certain existing Mode 4 commitments be extended with liberalizing effects. One participant mentioned that the negotiated inclusion of more sectors in schedules would automatically expand the range of Mode 4 commitments, which normally apply on a horizontal basis.

Not surprisingly, mode 4 was also frequently referred to as an area where contributions were expected from others. Some references were made to sub-sectors of particular interest, including architecture and engineering, medical services, computer and related services, construction, distribution, environmental services, various tourism-related services, logistics, maritime transport and space transport. The general need to improve conditions for business mobility, unrelated to other modes and without economic needs or labour market tests, was stressed in particular. There were also calls for the complete removal of numerical ceilings. Moreover, several interventions referred to the impact of domestic regulatory measures, including licensing and qualification requirements, on access opportunities under Mode 4 and, accordingly, the need to agree on effective disciplines. In this context, participants recalled the mandate in Annex C of the Hong Kong Ministerial Declaration to develop disciplines on domestic regulation before the end of current negotiations.

CONCLUDING REMARKS OF WTO DIRECTOR PASCAL LAMY

"Considering the signals given under each of the sectors and modes of supply, I would like to make a few points regarding my overall impression of this Conference:

– I was impressed by the wide sectoral coverage of the signals. Virtually all major sectors were mentioned. In particular, some infrastructural services were frequently highlighted. Among those are financial services, telecommunications, transport

and a range of professional services. I am also particularly pleased by frequent signals to facilitate access in environmental services, thus heeding objectives contained in the Doha Ministerial Declaration.

– Equally impressive was the modal coverage of signals. All modes were regularly referred to, often in different sectoral contexts, but also in their own right. For example, most participants indicated their readiness to improve access conditions for mode 4. In several statements, these signals were expressly linked to the development character of this Round.

– Several participants acknowledged the need to clarify, reduce or remove economic needs tests, and to act accordingly. These signals were particularly relevant in view of the discretionary nature of such tests.

– I was pleased about several expressions of willingness to close the gap between applied regimes and existing commitments in a number of sectors. In one case, this was offered across the board. Another participant intended in most sectors to bind under the GATS the treatment currently extended under FTAs.

– Particularly encouraging were several signals that involved new market opening beyond status quo conditions.

– It also interesting to note that in the aspirations expressed by participants, the creation of effective disciplines on domestic regulation played an important role. The timelines contained in Annex of the Hong Kong Ministerial Declaration were reiterated.

– Of course, participants had prepared their wish-list prior to the meeting and before they heard signals from each other. However, I noted with interest that some of the wishes had already been, or were on their way to being, fulfilled. This was also indicated by frequent references to collective requests in the signals given.

– I was also pleased about several expressions of satisfaction with the progress achieved in the implementation of the modalities for the treatment of least-developed countries.

– Finally, I would like to reiterate, as noted at the outset, that this exercise does not represent the final outcome of the services negotiations. There is still a considerable way to go."