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# In Brief

## ICT at the Center of Global Economic Transformation

"It is now widely accepted by policy-makers, enterprises and society at large that information and communication technologies (ICT) are at the center of an economic and social transformation that is affecting all countries. ICT and globalization have combined to create a new economic and social landscape. They have brought fundamental changes in the way enterprises and economies as a whole function." This is the thrust of the annual United Nations E-Commerce and Development Report 2003, prepared by the UN Conference on Trade and Development (UNCTAD). The report presents a series of articles addressing Internet trends, ICT and Internet implications for developing countries, open source software, business outsourcing, marketing of developing country exports via the Internet, and online dispute resolution. The full 297-page report may be accessed in English from: http://www.unctad.org/ecommerce. The overview presents the following points:

The importance that society attaches to ICT is illustrated by the large number of initiatives, especially at the international level, aimed at enhancing the development and adoption of ICT. This is particularly noteworthy on the eve of the World Summit on the Information Society (WSIS), the first UN Summit ever devoted to ICT. This and other initiatives, such as the G8 DOT Force (Digital Opportunity Task Force), the UN ICT Task Force and many other regional and national ICT programs.

This Report shows there is now a growing agreement about the positive contribution of ICT to productivity growth. Through the application of ICT, firms will become more competitive, new markets will be accessed and new employment opportunities created. All of this will result in the generation of wealth and sustainable economic growth.

The impact of ICT on firms' and industries' performance and competitiveness is achieved through increased information flows, which result in knowledge transfer as well as improved organization. In particular, ICT have become important tools for improving productive capacity and increasing international competitiveness by reducing the transaction costs involved in the production and exchange of goods and services, increasing the efficiency of management functions, and enabling firms to exchange and access more information.

While ICT improve productivity in existing productive activities, they also make possible the emergence of new activities such as online outsourcing of services and the production of different types of ICT goods. These activities enable countries, including developing ones, to diversify their economies, enhance their export competitiveness and produce high-value-added services that boost the local economy.

Despite the wide range of benefits that can be brought about by ICT, the development and adoption of ICT by developing countries have so far been limited. Reasons for this have been amply documented. They include lack of awareness of what ICT could offer, insufficient telecommunications infrastructure and Internet connectivity, expensive Internet access, absence of adequate legal and regulatory frameworks, shortage of requisite human capacity, failure to use local language and content, and lack of entrepreneurship and a business culture open to change, transparency and democracy.

The objective of the Report is to provide information about developments in the area of e-commerce and ICT, particularly as they relate to developing countries. It identifies areas where applications of ICT can make an impact on developing countries' enterprises and economies. By critically reviewing the latest developments in ICT and the knowledge economy and examining their implications to developing countries, it provides an analytical and empirical basis for appropriate decision-making by policy makers in the field of ICT and e-business. The report should also be seen

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as a contribution to the debate concerning economic development as the WSIS.

As a premise, the Report recognizes the positive role of ICT in the development process. Taking into account the constraints that developing countries face in adopting e-commerce and ICT, the Report focuses on policies and strategies to address those constraints. The material presents the state of the art in e-commerce and ICT and discusses how it can be applied to developing countries. It also contains case studies of industries and other economic activities as well as regulatory issues. In all instances, specific recommendations are made to developing countries in order to enhance their understanding of the issues and their ability to adopt e-commerce and ICT.

# Competition Toughens In Knowledge-Based Economic Sectors

Despite economic slowdown and talk of the death of the "new economy," the knowledge-intensity of OECD economies continues to increase. This is reflected not only in productivity patterns but also in a wide range of indicators contained in a new OECD publication, OECD Science, Technology and Industry – 2003 Scoreboard. An electronic version (www.oecd.org/sti/scoreboard) is available with a data appendix and links to the underlying databases.

According to productivity data, the United States, Canada, the Netherlands and Australia received the largest boost from investment in ICT. Much of labor productivity growth outside the farm sector, meanwhile, is concentrated in knowledge-intensive activities, notably ICT services and high "technology and medium-to-high-technology" manufacturing.

Significantly, the focus on generating and using knowledge through investments in R&D, use of ICT, patenting, development of scientists and engineers is extending to a wider range of countries, many of them outside the OECD's membership. This suggests increasing competition for the factors that generate knowledge skilled people, innovative businesses and capital with a likely reduction in some of the advantages that select countries enjoyed in the 1990s.

The OECD Scoreboard reveals this changing landscape through over 200 indicators on science, technology and industry covering four areas: the creation and diffusion of knowledge, the information economy, the global integration of economic activities and productivity and economic structure. Together, they provide a comprehensive overview for each of the countries surveyed.

The report shows that OECD-wide investment in research and development (R&D) rose in 2001 and into 2002, while patenting nearly doubled over the decade fuelled by activity in the biotechnology and information and communication technology (ICT) sectors. This activity is not the sole province of the OECD countries. Major non-OECD economies currently account for 17% of global R&D expenditure, with Chinese R&D expenditure of some US $60 billion, putting China third in the world behind the US and Japan. India spent about US $19 billion on R&D in 2000-01, putting it among the top 10 countries world-wide. Chinese Taipei was the fourth largest recipient of US patents, ahead of France, the UK, Korea and Canada.

Human capital is an essential input into economic growth based on science and technology. Universities in the European Union award 36% of science and engineering (S&E) degrees in the OECD area while the US universities award 24%. To compensate, the US draws on the skills of foreign-born scientists and engineers. While some OECD countries such as the UK and Canada are important sources for scientific personnel in the US, three times as many foreign-born scientists are from China and twice as many from India as from the United Kingdom. In many cases, these foreign-born workers come from the national university system. Foreign students represent more than a third of PhD enrolments in Switzerland, Belgium and the United Kingdom, 27% in the United States, 21% in Australia, 18% in Denmark and 17% in Canada. In absolute numbers, the United States has far more foreign PhD students than other OECD countries, with around 79,000. The United Kingdom follows with some 25,000.

*The information economy.* Information and communication technology (ICT) continued to spread, despite the slowdown in parts of the ICT sector. In Denmark, Germany, Sweden and Switzerland, some two-thirds of households had access to a home computer in 2002, and in many OECD countries 80% or more of the enterprises with ten or more employees now use the Internet, this includes countries like the Czech Republic and Spain. Broadband access is more varied and is most widely diffused in Korea, Canada, Sweden, Denmark,

Belgium and the United States. In Denmark and Sweden, one out of five enterprises accesses the Internet through a connection faster than 2Mbps.

The integration of the Internet into everyday life continues apace. In the United States, almost 40% of Internet users buy on line. The share of electronic sales in total US sales grew by 70% between the fourth quarter of 2000 and the fourth quarter of 2002, reaching 1.5% of retail sales. In Portugal and Sweden, about half of all Internet users play games on line and/or download games and music. In Sweden and Denmark, more than half of all Internet users utilize e-banking.

*The global integration of economic activities.* The growing knowledge intensity of OECD economies is accompanied by rapid economic globalization. The trade-to-GDP ratio increased by about 2 percentage points over the 1990s in the United States and the European Union, although it remained stable in Japan. Trade in high-technology goods, such as aircraft, computers, pharmaceuticals and scientific instruments, now account for over 25% of total trade, up from less than 20% in the early 1990s. A significant portion of this trade is between different affiliates of a multinational enterprise: the share of intra-firm exports in total exports of manufacturing affiliates under foreign control ranges between 35% and 60% in the OECD countries for which data are available.

The amount of manufacturing R&D expenditure under foreign control has grown by nearly 90 per cent between 1993 and 1999 (current prices) with the US being the destination for nearly half of this investment, accounting for about 18 per cent of all US manufacturing R&D in 1999. For many countries, including Canada, Ireland, Hungary, the Netherlands, Spain, Sweden, and the UK, foreign affiliates account for 30 per cent or more of manufacturing R&D and over 70% in Hungary and Ireland.

*Productivity and economic structure.* Some OECD countries increased growth over the 1990s, due to a combination of factors, including higher labor utilization, capital deepening, notably in ICT, and more rapid multi-factor productivity (MFP) growth. Over the second half of the 1990s, MFP growth accounted for a considerable part of overall growth of GDP, particularly in Finland, Greece, Ireland and Portugal.

By 2000, services accounted for 70% of OECD GDP; manufactures accounted for about 18%. In many OECD countries, business services currently account for the bulk of labor productivity growth. Part of the increase in the services sector's contribution to value added reflects the manufacturing sector's greater demand for services, some of which is due to the outsourcing of services previously produced in house. Estimates of the amount of services embodied in one unit of final demand for manufactured goods show that it was significantly higher in the mid-1990s than in the early 1970s.

# Restoring Consumer Trust Objective of Japan Privacy Act

Contrary to many assumptions about public attitudes toward privacy in traditionally "community oriented" Japanese society, privacy concerns arose and became widespread in the 1990s. The depth and focus of these concerns were measured by the Japanese Consumer Privacy Survey, developed by Dr. Alan Westin and undertaken by the Japan-US Privacy and Data Protection Program in 1999. Three of four Japanese (76%) said that they were concerned about the potential misuse of their personal information (This compared to 94% of American consumers). About two-thirds (67%) believed that they had "lost all control over how personal information is collected and used by companies." (This compared with 80% of American consumers.) Despite their wariness, however, few Japanese consumers reported that they were taking assertive or positive active action to protect privacy.

A 2002 survey by the World Economic Forum of almost 50 nations in Europe, Africa, Asia, the Americas and the Middle East, only 27% of Japanese respondents had "a lot" or "some" trust in large Japanese companies, while 66% claimed to have "not much trust at all" in domestic businesses. Foreign companies operating in Japan fared similarly, with only 26% showing "a lot" or "some" trust, and 59% unwilling to trust such companies.

In response to this clear need to improve public confidence in private sector protection of personal information through public law, the Japanese legislature, the Diet, adopted the Personal Information Protection Act (2003). This law is designed to protect individuals by regulating the use of personal information in databases maintained by private businesses (known as entities handling personal information). Personal information is defined as "information about a living individual that

contains such name, date of birth or other description." It contains fair information principles in the form of essential identical obligations binding upon individual businesses. The Cabinet Office on September 3, 2003 issued a draft Personal Information Protection Act Implementation Order elaborates on a number of the Act's provisions.

The Act, among a number obligations placed on business, imposes a requirement of honesty and openness on the acquisition of personal information. Before handling personal information, businesses must specify "as strictly as possible" the purpose for which it intends to use it. A business must then use the information exclusively for the specified purpose or for another purpose that is reasonably related to it Companies are required to take reasonable steps to maintain the accuracy and currency of personal data. Internally, a business must "exercise necessary and appropriate supervision" over employees who handle personal data, in order to ensure that they comply with the business' security obligations. Provisions of the Act affecting the private sector will come into force on April 1, 2005.

Supervision and enforcement of the Act is designated to certain "competent" Government Ministries. The Act provides for certification of private-sector bodies to handle consumer complaints and to promote best practice in handling personal information in particular industry sectors. Competent ministries may take disciplinary action against certified organizations that violate the Act. Ministers may require an organization to report on its certified business and may issue orders to an organization to change its practices or guidelines or to take any action necessary to bring it into conformity with the Act.

Certain entities are exempted from the application of the Act under certain circumstances. These include (1) broadcasting institutions, newspapers and news agencies, and other reporting organs; (2) authors using personal information for the purpose of producing literary works; (3) colleges and universities and other academic institutions; (4) religious organizations using personal information for the purpose of religious activities; and (5) political organizations using personal information for the purposes of political activities.

### *Unauthorized Computer Access Act and Anti-Spam Act*

High levels of consumer concern about privacy on the Internet have presented a major roadblock to the development of e-commerce in many countries, the situation in Japan was no different. According to a survey undertaken by the former Ministry of Posts and Telecommunications in 1997, 78% of Japanese consumers thought that "further measures should be taken to protect personal information transmitted online," while only 13% thought that the existing self-regulatory environment was sufficient to protect their privacy.

The Japanese Government sought to address obstacles to encourage the growth to the e-commerce market. It embarked on an aggressive remediation program which included encouraging competition in telecommunications, rolling out a state-of-the-art telecommunications infrastructure, and formulating laws and regulations to address consumer concerns. The latter have included the Unauthorized Computer Access Act of 1999 and the 2002 Act Concerning Transmission of Specified Electronic Mail (Anti-Spam Act). As well, the Government in 2001 introduced the e-Japan Priority Policy Program called for the "preparation of a basic regulatory framework for the protection of personal information" as well as the preparation of "laws for the protection of personal information in the industry sector in order to increase consumer confidence in transacting business online. The fruit of this policy has been the Personal Information Protection Act of 2003.

### *Japan-US Privacy and Data Protection Program*

The Japan-US Privacy and Data Protection Program was launched in 1999 by the non-profit Center for Social and Legal Research (CSLR). Professor Alan F. Westin, Director of the Center builds on many years of privacy research experience in the United States as well as conducting several public opinion surveys and other privacy activities in Japan. The current program advisors include Masao Horibe, Professor of Law, Chuo University; G. Russell Pipe, Deputy Director, Global Information Infrastructure Commission; and Jun Sofue, business strategy expert. For its expanded 2004–2005 activities, the Program will assemble an advisory board made up of Japanese government officials, business leaders, academics, consumer leaders, media representatives, lawyers and information technology experts.

The Program is to provide a wide-ranging, objective and in-depth coverage of the Japanese privacy and data protection environment, and to make its work available through a free online website, the Japan Privacy Department on CSLR's web-based PrivacyExchange www.PrivacyExchange.org.

The Japan Department will offer a "NewsFlash" service of the latest Japanese privacy developments in English and Japanese. It will draw from media reports, organizational and government publications, consumer and privacy positions and other courses.

In addition for news and information, the department will offer the following databases: laws and regulations; company privacy policies; surveys, papers and reports; litigation; industry associations; advocacy groups; resources for privacy officers; transborder issues; and data protection in Asia. To register to the Japan Department individuals should send their name, title, e-mail address and name of their organization to: www.admin@privacyexchange.org

The Program is supported by grants from companies, industry associations, and foundations in both Japan and the United States.

# Positive Signs for Europe's Communications Market

The 9th Report on the Implementation of the EU Electronic Communications Regulatory Package was adopted by the Commission on November 19, 2003. It points to renewed business and consumer confidence. Broadband or high-speed Internet access and mobile communications are the main drivers of growth. The number of fixed lines has almost doubled over the last year but the competitive situation must improve further if the broadband sector is to truly thrive. The Report projects that in 2003 the number of mobile subscribers will grow at a higher rate than in 2002, notwithstanding that the penetration rate is already close to 90% in a number of EU countries.

This year's Report comes at a moment of transition between the new and old regulatory framework for electronic communications that entered into force in July 2003. Infringement proceedings against Member States that have not adopted the new legislation were opened in early October 2003 for failure to communicate transposition measures to the Commission. In view of this, the Report deliberately focuses on key issues which need to be addressed in the transposition process, rather than rendering an assessment of the individual Member States. These key issues include assignment of National Regulatory Authorities' (NRA) tasks to competent national bodies and the clear division of those tasks where they are distributed between different bodies. The Report also stresses the need to ensure wider powers and discretion as well as the full range of remedies for NRAs provided for in the new framework.

The Commission is worried about the regulatory situation in many Member States, as so far only eight have completed their transposition of the new EU legislation into national law. Full, effective and timely transposition of EU legislation in each country is very important to create the correct and predictable environment in which investment can thrive. With the Report the Commission is seeking to focus attention of the Member States on key issues that need to be addressed in the transposition process.

The Report covers electronic communications in the main areas of traditional fixed line telephony, mobile telephony, Internet and online access, switched data and leased services, and Cable TV. The following are highlights:

*Market Recession*

Despite the economic recession, EITO, (the European IT Observatory) reports that the electronic communications market for the 15 EU member states should be worth a combined Euro 251 billion this year, having grown at 4.7% over 2002. Broadband and Mobile are the main drivers for this. Statistic strongly suggests that the worst is over and that we might reasonably expect continued growth from now on.

*The Voice Services Market*

Carrier pre-selection (CPS) attracted little attention over the past few years outside the supplier sector where it was always seen as one of the greatest threats to incumbent share of the domestic market. Now it has been introduced it has indeed had the predicted impact on competition in the fixed line market, especially in the local call sector. Although incumbents still attract 80% of the revenues from local calls, this fell by 6% during 2002 and is estimated to have fallen a further 5% during the first half of 2003.

In some countries the incumbents have been forced to deploy win-back schemes, and in others, e.g., the UK, win-back activity has been severely restricted by the NRA and is having a significant adverse effect on the incumbent's revenues. In yet others, e.g., Ireland, the incumbent estimates that 60% of customers lost to CPS have been won back.

However, despite the widespread predictions that voice revenues are drying up and, in the extreme, voice will be effectively free within the decade the incumbents are still overpoweringly dominant, especially in the single line, domestic market. Moreover, the competitive operators are increasing their share in the niche markets, especially in the enterprise sector. Nevertheless, the new players are not making a huge impact overall, and the incumbents' share of the market has fallen by only a little between 1.5% and 6% over the past year depending on the sector.

The incumbents are having a much worse time in competing for international calls their share of this market is now down to 62% across the EU. But they do retain a declining 69% of the market in both long distance and calls from fixed lines to mobiles.

*Broadband*

Across the EU access to broadband is growing rapidly and the Report estimates that the number of broadband connections reached 17.5 million in July 2003, a year-on-year increase of 93%. Cable accounts for around a quarter of connections and it seems clear that the incumbents that are offering xDSL are focusing their roll-out plans on those areas where cable franchises exist, in head-to-head and increasingly successful competition. In that context, DSL appears to be emerging as the connection of choice, is growing faster than cable, and now accounts for over 70% of broadband connections. Therefore, in order to ensure effective competition, the EU is tending to focus on forms of regulation that empower the wholesale market, but measures such as local loop unbundling and other forms of network access such as straight resale and wholesale bitstream access have had very limited success. Only 828,000 lines were unbundled between July 2002 and July 2003, (60% of them in Germany, the rest in Denmark, Finland, Italy, the Netherlands and Sweden) and vertically-integrated incumbents remain unenthusiastic about relaxing their grip over the last mile.

ISPs are still failing to acquire broadband market share from the incumbents, their overall share currently standing at around 23%, a relatively small increase from last year's 15%. Within that overall figure there is a very wide spread: Deutsche Telekom owns 96% of all broadband connections in Germany, while in the UK, BT owns just over 33%. As has been noted, head-to-head competition from the incumbents' DSL offerings is increasingly successful, hence the Commission's focus on preserving and extending a competitive market. The Commission has not hesitated to take firm action when needed, such as the fine imposed on France Telecom's Wanadoo for anti-competitive behavior in the form of predatory pricing of their ADSL offering. Following that action broadband prices fell by 30% in France, resulting in an accelerating broadband market.

*Mobile*

Mobile telephony continues to be the flagship of growth and the number of "subscribers" will this year exceed 300 million. Despite the woes that still afflict the 3G market, overall penetration of mobiles within the EU is projected to reach 81% of the population by the end of 2003, an increase of 6% on last year. However, the figures vary between member states, from 115% penetration in Luxembourg to 66% in France. The market leader in most countries is the mobile subsidiary of the incumbent, in most cases, still State-owned or partially-owned, with the UK being the only exception to this rule. However, such incumbents, although slowly losing market share, still retain on average over 45% of their national markets.

While the launch of 3G services next year is still being "talked up" by the industry, current experience in the UK suggests that the effect of 3G on the enterprise sector (where the marketing is expected to be targeted) will be minimal, at least in the short term, and early adopters are thin on the ground. Comment: issues such as high call termination costs and limited roaming capabilities mean that the 3G jury is still out, at least within the UK's business community, which has yet to be offered cost-effective business applications and seems content to experiment with 2.5G until 3G has bedded down in the market.

*Conclusion*

It is clear that the focus of the Commission is on competition, but that there are still too many member states that have failed adequately to liberalize their telecoms markets. The UK probably leads, with something approaching a free market (save in one or two areas, such as local loop infrastructure, where customers and users still lack choice). However, in far too many cases, Member States ignore the regulations with blatant support for the "state-owned" incumbent, verging on preservation of the monopoly. In short, a harmonized market does not exist and the prospect for harmonization seems a distant as ever. The 9th Report is available at: http://europa.eu.int/information_society/

topics/ecomm/all_about/implementation_enforcement/annualreports/9threport/index_en.htm.

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# Digital Access Index Prepared

The first global index to rank Information and Communication Technology (ICT) access has been prepared by the International Telecommunication Union (ITU). According to an announcement, the index has turned up some surprises. Slovenia ties France; and the Republic of Korea, usually not among the top ten in international ICT rankings, comes in fourth. Apart from Canada, ranked 10th, the top ten economies are exclusively Asian and European. The Digital Access Index (DAI) distinguishes itself from other indices by including a number of new variables, such as education and affordability. It also covers a total of 178 economies, which makes it the first truly global ICT ranking.

Countries are classified into one of four digital access categories: high, upper, medium and low. Those in the upper category include mainly nations from Central and Eastern Europe, the Caribbean, Gulf States and emerging Latin American nations. Many have used ICTs as a development enabler and government policies have helped them reach an impressive level of ICT access. This includes major ICT projects such as the Dubai Internet City in the United Arab Emirates (the highest ranked Arab nation in the DAI), the Multimedia Super Corridor in Malaysia (the highest ranked developing Asian nation) and the Cyber City in Mauritius (along with Seychelles, the highest ranked African nation). The DAI will be a useful tool for tracking the future advancement of these ambitious emerging economies.

The four Asian Tigers have made the greatest progress in ICTs over the last four years. The results suggest that English is no longer a decisive factor in quick technology adoption, especially as more content is made available in other languages.

The DAI forms part of the ITU's upcoming 2003 edition of the World Telecommunication Development Report (WTDR). Published to coincide with the World Summit on the Information Society (WSIS), it will be a vital reference for governments, international development agencies, non-governmental organizations and the private sector to assess national conditions in information and communications technology.

# Broadband Boost to Economic and Social Development

The OECD issued a report responding to challenges of maximizing the benefits of broadband Internet services for social and economic development. Its policy statement highlights the need for competition in communications markets and between rapidly evolving technologies, including DSL, cable, fixed wireless and satellite. Government policy has to be pro-active with particular attention to neutrality between such different technologies, the report stated. The document and other OECD references and statistics are available from its website www.oecd.org/sti.

"The private sector has a primary role in investing in broadband infrastructure, service provision, applications, and content creation. Government has a role as a model user, in aggregating demand, and where needed, in supporting services for underserved communities. Although broadband access is now available to three in four households across the OECD, and this has been achieved relatively quickly, the policy statement takes up the challenge of increasing that reach and further developing services. Building user trust in broadband and ensuring network and information security is important, particularly because a defining characteristic of broadband technology is that is always on."

The OECD Business Organization (BIAC) released its own "Broadband Manifesto" stating "despite their differences, competing stakeholders have come together to bring their message home to OECD governments: Broadband development is a cornerstone of the digital revolution and without government action to provide a competitive playing field, this revolution will be curtailed." BIAC is composed of network, service, and content providers; software developers, users group and other industries. Dr. Andrea Camanzi, chair of the BIAC Committee for Information, Communication and Computer Policy (ICCP) commented: "Broadband technologies possess untapped potential for creating value, increasing efficiency and lowering production costs, which will bring major benefits to both business and consumers around the globe."

The OECD has long focused on information and communication technology (ICT) as a proven contributor to economic growth derived from improved efficiency in business processes and increased access to markets, for example for small and medium-sized enterprises. With growth over the last year of 53% translating to 75 million broadband subscribers in OECD countries by the end of September 2003 and an estimated annual US$30 billion in access revenue, the significance of broadband as a key component of ICT-driven growth has been established. Together with increasing user interest and availability, the average OECD penetration rate of 6.6 subscribers per 100 inhabitants indicates major potential for future growth with a number of the leading countries already well ahead of that rate.

"ICT is a key driver in economic growth, and broadband is probably the single most important, cross-cutting development in ICT at this time," indicate Hugo Parr, Chairman of the OECD ICCP Committee and Director General, Ministry of Trade and Industry of Norway, adding that, "Choosing the right policy responses can have an immense impact both for the public and the private sectors."

The following are excerpts from the OECD report, Broadband Driving Growth: Policy Responses:

**What policy principles should guide broadband development?**

Based on experience from OECD countries, the following principles have been demonstrated to assist the development of broadband markets, promote efficient and innovative supply arrangements, and encourage effective use of broadband services.

These principles are:

- Effective competition and continued liberalization in infrastructure, network services and applications in the face of convergence across different technological platforms that supply broadband services and maintain transparent, non-discriminatory market policies.
- Policies that encourage investment in new technological infrastructure, content and applications in order to ensure wide take-up.
- Technologically neutral policy and regulation among competing and developing technologies to encourage interoperability, innovation and expand choice, taking into consideration that convergence of platforms and services requires the reassessment and consistency of regulatory frameworks.
- Recognition of the primary role of the private sector in the expansion of coverage and the use of broadband, with complementary government initiatives that take care not to distort the market.
- A culture of security to enhance trust in the use of ICT by business and consumers, effective enforcement of privacy and consumer protection, and more generally, strengthened cross-border cooperation between all stakeholders to reach these goals.
- The need to address both: 1) supply-based approaches to encourage infrastructure, content, and service provision, and 2) demand-based approaches, such as demand aggregation in sparsely populated areas, as a virtuous cycle to promote take-up and effective use of broadband services.
- Access on fair terms and at competitive prices to all communities, irrespective of location, in order to realize the full benefits of broadband services.
- Assessment of the market-driven availability and diffusion of broadband services in order to determine whether government initiatives are appropriate and how they should be structured.
- Regulatory frameworks that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights, and digital rights management without disadvantaging innovative e-business models.
- Encouragement of research and development in the field of ICT for the development of broadband and enhancement of its economic, social and cultural effectiveness.

**What are the areas for action?**

*Infrastructure development and readiness*

- The active engagement of the private sector in a competitive marketplace is the best way to facilitate ongoing and new investment in broadband, and to maximize the capacity to assess the potential risks and returns.
- Liberalization of telecommunications markets is fundamental but pro-competitive safeguards are also required where there is insufficient competition. Competition and the reduction of bottlenecks are important to stimulate take-up and facilitate maximum extension of the market.
- The widespread availability and access on fair and reasonable conditions to broadband remains an issue in some countries for remote areas and underserved groups. The broadening of geographic coverage, which may require the innovative use of spectrum, should address existing, and avoid cre-

ating new digital, social, and economic divides while not increasing any dominant market position. Public financial assistance could complement private investment where appropriate, provided it does not preempt private sector initiative or inhibit competition.
– Competition among different operators and technological platforms and their capabilities to deliver content-rich services requires the interoperability of broadband networks, in the context of convergence.

*Demand, application, use and skill development*

– Digital content and services are essential for increasing demand for broadband, and government and the private sector have key roles in facilitating content availability across all platforms.
– As model users of broadband government can demonstrate the potential of broadband-based services and content, notably by using it to increase the efficiency of public service delivery, and encourage local development of new content, including content from public sources.
– A high level of trust, security, privacy and consumer protection are needed in order to safeguard the integrity and reliability of networks, protect users through mechanisms such as encryption and authentication technologies, combat cyber-crime and spam, and protect intellectual property, and will only be achieved through the development of rules with cross-border application for the market place.
– The private sector needs to take an active lead in developing standards and mechanisms that meet the demands of their customers and will also continue to build confidence in broadband services.
– Government initiatives to expand coverage and use, such as aggregation of local demand, are best structured around public/private sector partnerships.
– The private sector and government have a role in providing information about the benefits of the widespread adoption and use of broadband, especially those to SMEs. The use of e-government in particular provides important demonstration effects and serves as a demand driver.
– Education, healthcare, general government information and services, and provision of government services to businesses and citizens can all potentially benefit from the use of broadband and should be given priority in government strategies.
– All stakeholders need to seek a consensus on the management of intellectual property rights to allow new business models to be developed for the distribution of content.

# Telecom Trade Liberalization Creates Strong Links for Economic Development

It is widely understood that communications is a dynamic of global interaction or linkage, i.e., globalization or interdependence – in a global village. Knowledge and information disseminated through converged telecommunications, broadcasting and computers – ICTs, are the very resources of power in today's knowledge-driven society. Yet, communications technology itself is not the determining factor. It is efficient management and implementation of technology policy that has significantly impacted on the development of the telecommunications sector. For instance, telecommunications such as liberalization or privatization started from the US and the UK under the umbrella of their macro economic politics in the early 1980s has stirred the global telecommunications sector. The liberalization trend was accelerated by the WTO Basic Telecommunications Agreement in the late 1990s. This was the thesis of the keynote presentation by Dr. Eun-Ju Kim, Senior Advisor for Asia and the Pacific, International Telecommunication Union (ITU) at the opening of the Joint Seminar on Telecom and Trade, organized in Bangkok, Thailand, on October 28-30 by ITU, UN Economic and Social Commission for Asia and the Pacific (UNESCAP) and World Trade Organization (WTO).

The Seminar was designed to provide a general overview of telecommunications and trade issues from socio-economic aspects, providing experiences on the issues by some countries, case studies of six selected countries and simulation sessions to practice negotiation techniques, and seek ways to and recommendations for new issues in the Doha Development Round. The discussion was in the context of telecom services covered by the Uruguay Round of multilateral trade negotiations. As a result of entry into force of the WTO/GATS Basic Telecommunications Agreement in

1998, governments representing about 82% of world telecom revenue committed to ensure to liberalization or competition as of February 1998 and another 6% on or before 2005. This trend is expected to have significant implications for the way in which the telecommunications industry, newly converged into the ICT industry, will be operated in the future.

Among the 30 countries participating in the Seminar were representatives of both telecommunications and trade sectors from national administration. Dr. Kim pointed out that some countries like Australia and South Korea had actively engaged and even satisfied most of their commitments, others like Cambodia and Nepal have just joined, and others like the Pacific countries, Iran and Bhutan are not members of the WTO yet. The Seminar was oriented to practical interaction pointing to WTO Doha negotiations.

The complete Joint Seminar papers are posted on the:

ITU website http://www.itu.int/ITU-D/treg/

UNESCAP website http://www.unescap.org/tid/mtg/ituwtoesc.asp

*Joint Seminar Recommendations*

Seminar participants prepared the following recommendations for the WTO Doha negotiations on trade in telecommunications services:

1. Credit should be given to autonomous liberalization initiatives in the telecommunication sector of developing and least-developed countries, and developing countries may be encouraged to use existing binding commitments as bargaining chips.
2. More specific and effective Special and Differential treatment should be given to least developed and developing countries.
3. Developing countries should proactively identify their own interests in telecommunications and trade, prioritize interests in particular sub-sectors and modes of systemic interests, and use their strength in number.
4. Developing countries should be vigilant in negotiating commitments in all services, and draft their schedules carefully to guard against excessive commitments and avoid overlap between sectors.
5. A harmonized sector classification for the telecommunication sector should be developed jointly by ITU and WTO.

Recognizing the usefulness and importance of the seminar as well as the complexity of the issue, it was recommended that ITU, ESCAP and WTO continue strengthening existing capacity building programs for developing countries. The following areas and topics were suggested:

1. Establishment and improvement of trade policy and regulatory frameworks.
2. Trade negotiation capabilities.
3. Skill development in framing commitments and envisaging request-offer in schedules in respect of telecommunication/ICT services.
4. Rules-making in the multilateral trading system.
5. Costs and benefits of WTO membership for countries in Asia and the Pacific, including comparative studies of WTO members and non-members in the region.
6. Costs and benefits of telecommunication liberalization under the WTO for countries in Asia and the Pacific.
7. Relationship between the Millennium Development Goals and trade liberalization.
8. Statistics of the service sector in general, and the telecommunication sector in particular.
9. Conformity of bilateral and regional agreements with WTO rules.

These capacity building programs and seminars should target trade officials, telecommunication policy makers and regulators, either jointly or separately.

Special seminars and activities are urged for members and countries acceding to WTO.

Regional activities should be complemented by national seminars, with different national stakeholders as participants.