INTERNATIONAL TELECOMMUNICATION UNION

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ITU NEWS

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Special Edition — Connect Africa Summit

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Investing in Africa's future

Dr Hamadoun I. Touré,
ITU Secretary-General


ITU/M. Zouhri

It was my great pleasure to join leaders of government, business and international and regional organizations at the *Connect Africa* Summit, in Kigali, Rwanda, on 29–30 October 2007. The highly successful event was held under the patronage of the President of Rwanda, His Excellency Paul Kagame, to whom I extend my deepest gratitude.

As a result of the World Summit on the Information Society (WSIS), there is a wide consensus about the power of information and communication technologies (ICT) as a catalyst for development. Nevertheless, we are at serious risk of not achieving, by 2015, the WSIS targets of connecting all villages, towns and cities of the world, as well as the United Nations Millennium Development Goals.

At present, the picture of ICT in Africa is varied. High-speed Internet services continue to be either very expensive or lacking. In addition, rural connectivity remains inadequate, as does the availability of locally relevant content, applications and services.

The good news is that, although these gaps present challenges, they also reveal huge opportunities for private investors and innovative public-private partnerships to increase Internet access and the rate of broadband penetration. Investment in ICT infrastructure in Africa has improved significantly in recent years, reaching a total of USD 8 billion in 2005 alone. This reflects an increasingly vibrant environment, especially in mobile telephony, where subscribers soared from 16 million in 2000 to 198 million in 2006. Much of this growth has been stimulated by competition and by policy and regulatory reform in most African telecommunication markets.

Progress was given a further boost at the *Connect Africa* Summit, where a commitment was made to interconnect all African capitals and major cities with broadband infrastructure and improve links with the rest of the world by 2012. This will be a significant step on the way towards our 2015 target for connecting all communities. In addition, it was announced at Kigali that financing worth some USD 55 billion is foreseen for ICT infrastructure development in Africa over the next few years, largely from the private sector (see article on pages 4–8).

This is very encouraging news. Investment, not charity, is the solution for Africa's development. African countries need modern, reliable broadband infrastructure in order to create jobs for economic growth. The end result will be a strengthening of Africa's competitive position in the global economy. ICT will not only connect individuals to the wider community, it will also connect Africa to the information society.

The Kigali Summit

Connecting Africa gathers pace

The Connect Africa *Summit was organized by ITU with the African Union, the World Bank Group and the United Nations Global Alliance for ICT and Development, in partnership with the African Development Bank, the African Telecommunications Union, the United Nations Economic Commission for Africa and the Global Digital Solidarity Fund.*

The *Connect Africa* Summit that took place in Kigali, Rwanda, on 29–30 October 2007 attracted more than 1000 participants from 54 countries, including Heads of State and Government. Forty-three countries in Africa were represented, with 23 at the ministerial level. In addition, leading industry players participated, such as British Telecom, Cisco, Ericsson, GSM Association, Huawei, Qualcomm, NTT DoCoMo, Neustar, Nokia, Siemens and Microsoft. Also taking part were international financial institutions, regional development banks, international and regional organizations and other stakeholders.

The primary aim of the summit was to mobilize the human, financial and technical resources required to bridge major gaps in information and communication technologies (ICT) infrastructure, so as to support affordable connectivity and services to stimulate economic growth throughout Africa. It sought ways to achieve the connectivity goals of the World Summit on the Information Society (WSIS), which must be reached quickly to support attainment of the United Nations Millennium Development Goals (MDGs) by 2015.

Heads of State and Government

In opening the summit, President Kagame underlined that "investment and trade — as opposed to aid and charity — must drive the transformation of our economies". He called for a dynamic ICT sector to connect Africa to the global information superhighway. "In order to realize this much-needed economic revolution, we have to forge productive relationships between government and business," said Mr Kagame.

Presidents Pierre Nkurunziza of Burundi, Blaise Compaoré of Burkina Faso, Ismail Omar Guelleh of Djibouti, Bingu wa Mutharika of Malawi, and Abdoulaye Wade of Senegal, with Deputy Prime Minister Constance T. Simelane of Swaziland, also attended the event. They said that with less than eight years to go, urgent action was needed to achieve the WSIS targets and the MDGs.

ITU/M. Zouhri

Leaders at the *Connect Africa* Summit

Front row (left to right):

- Malawi's President Bingu wa Mutharika
- Swaziland's Deputy Prime Minister Constance T. Simelane
- Senegal's President Abdoulaye Wade
- Rwanda's President Paul Kagame
- Burkina Faso's President Blaise Compaoré
- Djibouti's President Ismail Omar Guelleh
- Burundi's President Pierre Nkurunziza

Back row (from left to right):

- Special adviser to the President of the European Commission, José Manuel de Morais Briosa e Gala
- President of the State Council of the Republic and Canton of Geneva, Charles Beer
- President of the African Development Bank, Donald Kaberuka
- ITU Secretary-General, Dr Hamadoun I. Touré
- Chairman of the Board of Intel Corporation and Chairman of the United Nations Global Alliance for ICT and Development (GAID), Craig R. Barrett
- Chairperson of the Commission of the African Union, Professor Alpha Oumar Konaré
- Director of Operations, World Bank, Africa Region, Hartwig Schafer
- United Nations Under-Secretary-General for Economic and Social Affairs, Sha Zukang


Alamy


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Open for business

Representing United Nations Secretary-General Ban Ki-moon, Under-Secretary-General for Economic and Social Affairs Sha Zukang said the summit illustrated the potential of public-private partnerships, which, he added, augured well for the hopes and aspirations of all of the people of Africa for a better future. He recalled that WSIS had "set a clear course of action for advancing the information society and for achieving the Millennium Development Goals — our common vision to build a better world for all in the 21st century". Mr Sha underlined that narrowing the digital divide between rich and poor nations was central to development efforts.

"Africa is open for business," said ITU Secretary-General Hamadoun Touré. "We are looking for investment through win-win partnerships in a viable marketplace by an expanding ICT industry." Dr Touré added that "ICT is a catalyst and an enabler in all sectors of the economy in Africa," as well as "the accelerator to achieve the MDGs by 2015".

The President of the African Development Bank, Donald Kaberuka, called on African leaders to put in place regulatory frameworks that help to enhance growth. He said it was important for African countries to seek partnerships with the private sector to bridge the digital divide.

Craig Barrett, Chairman of Intel Corporation, who also chairs the UN Global Alliance for ICT and Development (GAID), said "Africa has a great opportunity to leap forward with new technologies. This has been already demonstrated with the very rapid adoption of mobile telephony. Emerging wireless broadband technologies offer a similar opportunity with regard to the Internet. But this requires both availability of radio spectrum and increased investment into the gaps in backbone networks." Mr Barrett added that it is not a technology problem. "The technology is waiting to be deployed. We now need the government priorities, decisions, and policies to drive the implementation of a pan-African infrastructure," he said.

Professor Alpha Oumar Konaré, Chairperson of the Commission of the African Union, welcomed the presence of the private sector at the summit, adding that governments should seize the opportunity to enact better regulations for companies to invest in the ICT sector.

The summit has a very practical aim, reaffirmed Director of ITU's Telecommunication Development Bureau Sami Al Basheer Al Morshid. "Our focus is on concrete commitments and partnerships," he said. "The reality is that broadband networks have become core infrastructure of the modern economy. Without these networks, Africa will not be able to fairly compete — to attract investment and high-paying, skilled jobs." He explained that, for ITU, the summit also represented an important way to implement actions called for at the World Telecommunication Development Conference (Doha, 2006).


Sony Ericsson

© Zoubri

Major announcements

Mobile operators plan USD 50 billion investment

The GSM Association, which represents mobile operators worldwide, announced at the summit that the mobile industry plans to invest more than USD 50 billion in sub-Saharan Africa over the next five years to provide more than 90 per cent of the population with mobile coverage. It said the investment will be used to extend the reach of GSM mobile networks, enhanced with GPRS, EDGE and HSPA technologies, to provide mobile multimedia services, including Internet access.

Since 2000, the mobile telephony industry has invested USD 35 billion in sub-Saharan Africa, according to the GSM Association. "This surge in investment by the mobile industry has changed the lives of millions of Africans, catalyzing economic development and strengthening social ties," said Rob Conway, CEO of the GSM Association.

MTN, Orange, Vodacom and Zain subsidiary Celtel are among the mobile operators planning to invest heavily in the expansion and enhancement of their networks. "We have the passion and dedication to provide Africa with a world class infrastructure," said MTN Group President and CEO Phuthuma Nhleko.

World Bank to double its investment

Hartwig Schafer, World Bank Director of Operations, Africa Region, said the bank expects to double its commitment for ICT infrastructure in Africa to USD 2 billion by 2012, from its current investment programme of USD 1 billion over the past five years. The new financing would support government-business partnerships, especially for affordable high-speed Internet and improved connectivity of rural areas and small towns, said Mr Schafer. The bank would also partner with universities and other bodies to offer training for regulatory staff across Africa.

EC to support Trans-African networks and regulatory reform

The European Commission announced support for trans-African networks that facilitate interconnectivity. An EU Trust Fund for Africa, worth almost EUR 100 million in grants and some EUR 260 million in loans, has been established by the EC, along with the European Investment Bank and ten EU member States, for the period 2007–2008. The fund, which will be replenished at the end of 2008, will finance cross-border projects, or national projects with a regional and continental impact in ICT, energy, water and transport.

The Commission also announced that it would contribute EUR 6 million to support ITU's regulatory reform initiatives in Africa, and that it would support the promotion of telemedicine.

Spain to support centre of excellence

The Government of Spain announced a contribution to ITU of EUR 1 million to help set up a *Centre of Excellence* for Portuguese and Spanish speaking countries in Africa, as well as ICT scholarships and internships for youth and support for ICT training centres.

Intel's new broadband computer lab in Kigali

Intel will donate a new computer laboratory to the Fawe Girls' School in Kigali, Rwanda, as part of its World Ahead programme. The donated computers are built by Rwanda Network Computer, a local start-up company. The facility will be connected to the Internet via a WiMAX broadband connection provided by MTN Rwanda.

A cybercafé in Kigali, Rwanda

ITU and AfDB join forces to link major cities by 2012

ITU and the African Development Bank (AfDB) announced that they will join forces to interconnect all African capitals and major cities with broadband infrastructure and strengthen connectivity with the rest of the world by 2012. President of AfDB Donald Kaberuka commented that "in recent years, private investment in ICT infrastructure, especially in mobile phone networks, has had an enormous impact in many parts of Africa, but major gaps remain. The development banks and other financing partners have a responsibility to step in where these gaps are holding back development in the region."

ITU and AfDB will mobilize partners and finance to close those gaps in broadband infrastructure between major centres. AfDB hosts the Secretariat of the African Infrastructure Consortium, which brings together major donors and financial institutions active in the region, and ensures that a coherent approach is taken.

To support the implementation of ICT infrastructure projects funded by the AfDB or other partners, ITU will serve as executive agency and provide expertise and technical assistance, where needed. ITU and AfDB will jointly undertake feasibility studies and develop project proposals in consultation with Member States and other stakeholders in the region.

AfDB has already committed close to USD 65 million for two key regional projects: the launching of a pan-African satellite system by the Regional African Satellite Communications Organization (RASCOM), and the Eastern Africa Submarine Cable System (EASSy), an initiative to connect eastern Africa via a high bandwidth fibre-optic cable system.

ITU and Microsoft sign MoU

A Memorandum of Understanding (MoU) was signed between ITU and Microsoft Corporation, outlining how they will work together to build a safe and inclusive information society. They agreed to support programmes providing skills development and capacity building, along with the delivery of relevant applications and services in Africa. In addition, they will collaborate globally on cybersecurity, providing digital opportunities for young people, and supporting regulators in developing countries.

"We are very pleased that Microsoft, as an early signatory of the ITU *Connect the World* initiative, is stepping up its commitment to help address the effective use of ICT infrastructure in Africa," said Dr Touré. From Microsoft, Michael Rawding, Vice President, Unlimited Potential Group, said that the company is "committed globally to applying technology to advance social and economic opportunity, and we look forward to working with ITU on shared development and technology goals."

An example of that cooperation is "ITU Global View," an online platform launched at the summit to track and help accelerate the implementation of the WSIS goals in Africa. Based on Microsoft *Virtual Earth* software, the platform integrates a broad range of data sources. Hosted and maintained by ITU, it will allow all stakeholders to check the status of projects, identify gaps and avoid overlaps.

Village Phone Direct Manual

ITU will publish the Grameen Foundation's Village Phone Direct Manual. It is designed to guide microfinance institutions and other organizations in developing Village Phone businesses for their clients. To accompany the manual, Grameen Foundation has also developed an online assistance centre at www.villagephonedirect.org.

Keynote speakers at the Connect Africa Summit's opening ceremony

Rwanda's President Paul Kagame

United Nations Under-Secretary-General for Economic and Social Affairs, Sha Zukang

ITU Secretary-General, Dr Hamadoun I. Touré

President of the African Development Bank, Donald Kaberuka

Director of Operations, World Bank, Africa Region, Hartwig Schafer

Chairman of the Board of Intel Corporation and Chairman of the United Nations Global Alliance for ICT and Development (GAID), Craig R. Barrett

Chairperson of the Commission of the African Union, Professor Alpha Oumar Konaré

All photographs on this page are by M. Zouhri.

The Kigali Summit in photos

Rwanda's Minister of State in charge of Energy and Communications, Albert Butare with ITU Secretary-General, Dr Hamadoun Touré, cutting the ribbon to inaugurate an ICT Exhibition, and United Nations Under-Secretary General for Economic and Social Affairs, Sha Zukang

"Creating an Enabling Environment for Investment" *session with Valerie d'Costa, Programme Manager, World Bank Group–InfoDev; Reza Jafari, Chairman of the Board, ITU Telecom; and Jay Naidoo, Chairman, Development Bank of Southern Africa*

Special adviser to the President of the European Commission, José Manuel de Morais Briosa e Gala with ITU Telecommunication Development Bureau Director Sami Al Basheer Al Morshid

"Capacity Building and Deploying Applications for E-Services" *session*

Mali's Minister of Communication and Information Technologies, Diarra Mariam Flantié Diallo

Tunisia's Minister of Communication Technologies, El Haj Gley

Microsoft Corporation's Vice President, Unlimited Potential Group, Michael Rawding

Opening ceremony

Malawi's Minister of Information and Civic Education, Patricia Kaliati

Gambia's Secretary of State for Communications and Information Technology, Neneh Macdouall-Gaye

All photographs on this page are by M. Zouhri.


Alamy


Fotosearch

The ICT picture in Africa

A snapshot of progress

Africa's mobile phone market has been the fastest growing in the world over the last five years, at twice the pace of the global average. It has been a significant contributor to providing more and more people with access to telecommunications. However, as yet, fewer than 4 per cent of Africans use the Internet. Broadband penetration is below 1 per cent, and some 70 per cent of Internet traffic within Africa is re-routed outside the continent, driving up costs for businesses and consumers.

The impact of mobile phones

Worldwide, the total number of mobile subscribers is projected to surpass 3 billion by the end of 2007. Almost all the new growth will come from emerging markets.

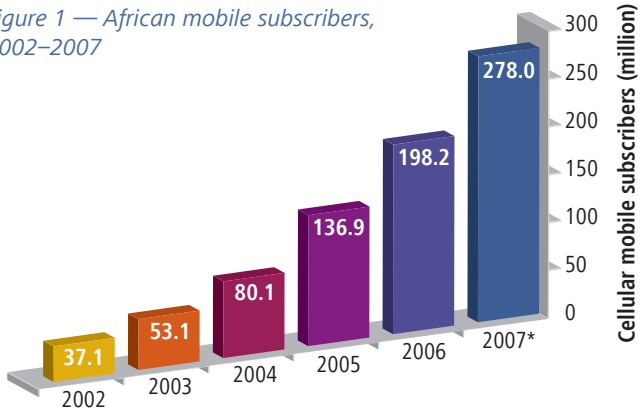
According to ITU statistics, the number of mobile subscribers in Africa soared from 16 million in 2000 to 198 million in 2006, and is projected to reach 278 million subscribers by the end of 2007 (see Figure 1 on page 12). Growth has been higher in sub-Saharan Africa, where mobile penetration tripled from 6.3 per 100 people in 2003 to 21.58 in 2006.

This expansion has been driven by the private sector and is greatest where the mobile market is competitive. Prepaid mobile cellular subscriptions have also been a major factor in mobile growth, with some 92 per cent of African subscribers using a prepaid package in 2005.

However, this increasing connectivity is not evenly distributed. The top 10 African markets account for almost four-fifths of all mobile cellular subscribers on the continent. One fifth of all mobile cellular subscribers live in South Africa, nearly a sixth in Nigeria, while Algeria, Egypt, Morocco, and Tunisia account for another third (see table on page 17).

In addition, the growth in mobile subscriptions is taking place mainly in the towns and cities. Although at least half the inhabitants of rural areas in Africa are covered by a mobile signal, fewer than 10 per cent of households have a mobile phone.

Figure 1 — African mobile subscribers, 2002–2007



** Represents estimated future projection.*
Source: ITU World Telecommunication/ICT Indicators Database.

Nokia

Harnessing mobiles to access the Internet

The spectacular growth of mobile services in developing countries has been fuelled by declining tariffs, prepaid packages, cheaper handset prices, increased network coverage and new service options, such as mobility and the short message service (SMS). The same factors could promote wireless broadband Internet access. In Kenya, for example, one Internet service provider (ISP) has announced that it will provide Internet access, including instant messaging and e-mail, through a handheld device. And in Zambia, a mobile operator is introducing the country's first mobile Internet access facility.

But because of high prices, these services remain beyond the reach of most customers in developing countries. It is hoped that operators will eventually find pricing plans that make these services more affordable.

Mobile broadband

At the end of 2006, around 109 countries worldwide had commercial IMT-2000 networks, also known as third-generation (3G) mobile. In Africa, Zambia launched commercial 3G services in 2006. Nigeria has taken a technology-neutral approach under which those offering CDMA 1x WLL with limited mobility can also provide 3G services. In Sudan, national provider Canar Telecommunications Company has announced the commercial launch of the country's first 3G wireless broadband Internet service.

The demand for affordable IMT-2000 services is rising in developing countries. One way to meet this would be through commercialization of low-frequency mobile technologies. These enable wider coverage with fewer base stations, and so reduce the cost of infrastructure. CDMA450 is a 3G solution combining next-generation CDMA2000 wireless communication services with network coverage using the 450 MHz frequency band. In Benin and Libya, services licensed in the 450 MHz frequency are used for delivering mobile or fixed wireless access to remote rural areas.

Mobile financial services

The ability to make payments via a mobile phone has developed as a highly successful model, especially for developing countries. Financial services allowing mobile subscribers to send cash with a simple SMS have emerged as a way of bringing people without bank accounts into the world of financial transfers.

In Kenya, for example, *M-pesa*, or "mobile money", has enabled the subscribers of Safaricom to make money transfers, with charges at less than a third of traditional banking services. Vodafone, which holds a 35 per cent share in Safaricom, has entered into a partnership with Citigroup that will

soon allow Kenyans in the United Kingdom to send money home via SMS.

VoIP

The number of voice over Internet protocol (VoIP) and voice over broadband (VoB) subscribers continues to grow around the world, fuelled by the demand for cheaper services. In addition, VoIP is being integrated into new services offered on IP networks, such as instant messaging and data exchange. But VoIP also threatens the revenues of traditional incumbent operators, and until recently, it was banned in many African countries. However, a number of countries have now legalized VoIP, including Algeria, Kenya, Mauritius, Somalia, South Africa, Tanzania and Uganda. Also, Egypt, Ghana and Nigeria are about to legalize the technology. Some countries are taking a more cautious approach, authorizing VoIP only for incumbents.

WiMAX

New wireless technologies, such as WiMAX, offer leapfrogging opportunities to developing countries, and promise cheaper broadband services. More than 200 operators worldwide are preparing to deploy WiMAX or have begun WiMAX trials.

Several operators in Africa already provide the technology, and WiMAX networks are being deployed in the 3.3–3.8 GHz range of spectrum in Algeria, Morocco, Mozambique, Namibia, Nigeria, Kenya, South Africa and Uganda. In South Africa, Telkom began trials of WiMAX in Pretoria in 2005. In April 2007, *Algérie Telecom* in Algeria signed an agreement with Galaxia for the deployment of a WiMAX network. In Morocco, *Meditel* and *Maroc Connect* acquired WiMAX licences in 2005 through a public tender and started trials and roll-out of their networks in 2006. Also, in 2006, the Tunisian Government authorized *Tunisie Telecom* and *Divona Telecom* to roll out WiMAX networks, and these are being tested in Tunis and Sfax for corporate clients.

Fibre-optic connectivity

The deployment of international fibre-optic networks, together with national fibre-optic backbones, is increasingly viewed as a main policy objective for developing countries. In Africa, the SAT-3/WASC high-capacity fibre-optic cable connects Senegal, Côte d'Ivoire, Ghana, Benin, Nigeria, Cameroon, Gabon, Angola and South Africa. New undersea fibre-optic cable projects include the East African Submarine Cable System (EASSy). Both Egypt and Kenya have announced plans to attract competing providers of undersea fibre-optic cables, so as to further lower the costs of international Internet access.

Numerous terrestrial fibre-optic projects have also been launched. For example, the Trans-Kalahari fibre-optic project in Botswana is expected to be operational in 2008. It is being implemented by the national incumbent, Botswana Telecommunications Corporation (BTC) and will deploy around 2000 km of optical fibre, connecting Botswana with Namibia and Zambia. The project is part of a wider initiative to liberalize Botswana's ICT sector, including the opening of its international gateway to competition and the introduction of VoIP services.


Alamy


Fotosearch

Internet exchange points (IXP)

Due to the lack of international connectivity, African countries are often dependent on overseas carriers for the exchange of traffic between African ISPs. Consequently, African Internet users pay a higher price for their connectivity. Establishing regional IXPs reduces interconnection costs, as well as latency. Governments, regulators and policy-makers can incorporate IXPs into their ICT development strategies as a way of using their international bandwidth economically.

By 2007, eighteen African countries had created a national IXP and two regional IXPs existed — one in Cairo and another serving Kenya, Tanzania and Uganda. Four of the national IXPs are in least developed countries: Angola, Rwanda, Tanzania and Zambia. The African Internet Service Provider Association (AfrISPA) plans to open IXPs in a further 11 African countries, including Benin, Cameroon, Central African Republic, Republic of the Congo, Côte d'Ivoire, Gambia, Malawi, Mali and Senegal.

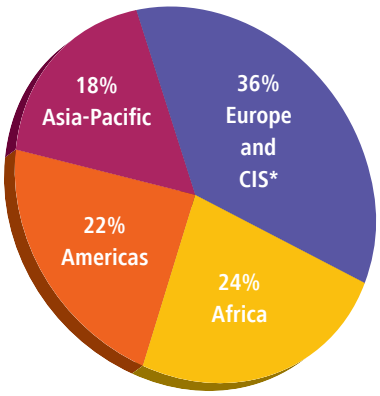
Opening the international gateway to competition can also reduce Internet costs, as can the liberalization of very small aperture terminal (VSAT) markets. Such measures have been taken in Kenya and South Africa. In Nigeria, the government actively supports the establishment of IXPs around the country and the Nigerian Communications Commission has approved a proposal to fund the creation of IXPs on a not-for-profit basis in collaboration with the ISP industry under the umbrella of Internet Service Providers Association of Nigeria (ISPAN).

Privatization and competition

By mid-2007, around 123 ITU Member States had a private or privatized national fixed-line incumbent, and several more countries have announced their intent to follow this policy (see Figure 2). In Africa, some 55 per cent of African countries had at least partially privatized the incumbent.

Botswana, for instance, is moving ahead with plans to privatize BTC. The Botswana Telecommunications Authority recently awarded BTC a service-neutral licence, which will allow it to provide mobile services. The evaluation of bidders for the transaction advisor for BTC has been completed. The next step is to identify potential strategic equity partners, with the aim of completing the

Figure 2 — Privatizations of fixed-line incumbents, 2007
Total number of countries: 123



*CIS: Commonwealth of Independent States

Source: ITU World Telecommunication Regulatory Database.

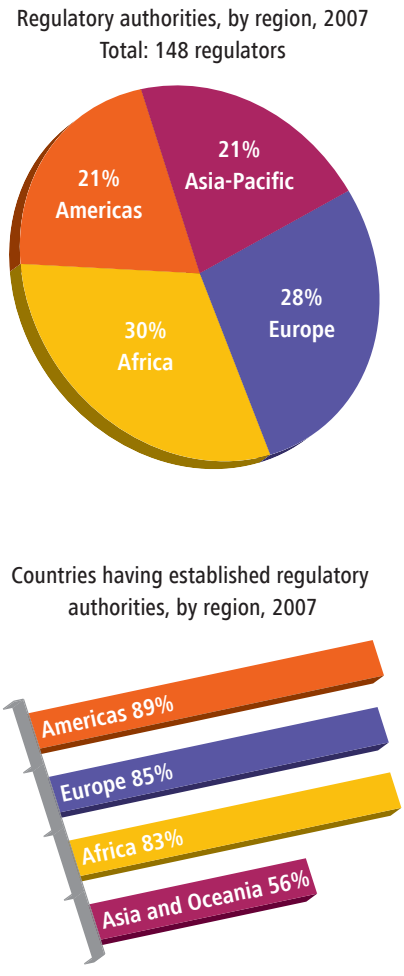
transaction within a year. Kenya is also on course in the privatization of Telkom Kenya, and a Preliminary Information Memorandum was issued in March 2007 to provide information to potential investors.

Effective competition leads to lower prices, more choice and better quality of service. It can also facilitate the take-up of new services. National regulatory authorities have an important role to play in ensuring and maintaining a competitive marketplace. In Malawi, for example, the Malawi Communications Regulatory Authority recently issued a licence to Access Communications Limited as the country's second national operator to provide fixed public telecommunication services in competition with the recently privatized incumbent Malawi Telecommunications Ltd. In Namibia, the government licensed a second mobile operator in early 2007.

Regulators grow in number

Over 77 per cent of ITU Member States have established a separate regulator. Forty-five African economies (or 83 per cent) have established a Telecommunication/ICT Regulatory Authority, with sixteen created since 2000 (see Figure 3). Already, there are several examples of effective regulatory bodies in Africa. Increasingly, regulators seek to be enablers of ICT development and agents of change. Providing them with the tools and powers to do their job effectively increases opportunities for attracting investment and innovation, and for building confidence in the market.

Figure 3 — Separate regulators, by region, September 2007



Source: ITU World Telecommunication Regulatory Database.


ITU/M. Zouhri


ITU/J.M. Ferré

International mobile roaming

The issue of mobile roaming charges is on the agenda of regulators worldwide, in an attempt to reduce the prices paid by consumers using their mobile phones abroad. Several operators in Africa have taken measures to cut these charges. In 2006, for example, mobile operators in Kenya, Tanzania and Uganda began offering customers seamless roaming within the three countries at domestic local rates. Celtel in Kenya paved the way with its "One Network," and extended its offer to the Democratic Republic of Congo, Gabon and the Republic of Congo.

The 15 members of the Economic Community of West African States (ECOWAS) have agreed that regulatory authorities should consult mobile operators to arrive at reasonable tariffs. Meanwhile, most mobile phone users in Africa simply purchase a new SIM card when they cross borders to avoid paying high mobile rates.

Sharing infrastructure and spectrum

A balance must be struck between improving access to networks and encouraging investment in infrastructure. In countries where regulators have adopted local-loop unbundling, incumbent and other major operators must provide competitors with access to the unbundled local loop.

In developing countries, the focus is on infrastructure sharing. In Africa, this is central to the debate on regional connectivity and is being discussed particularly in the context of regional cable and satellite initiatives. Meanwhile, in West Africa local-loop unbundling and co-location will become mandatory for dominant operators in all Member States of ECOWAS. In addition, infrastructure sharing will be encouraged.

As many of the key spectrum assignments have already been made to incumbent operators for the provision of fixed, fixed-mobile, and mobile services, policy-makers and regulators have to ensure that legacy assignments do not hamper the introduction of new next-generation network operators and services. This can be done through such means as spectrum sharing.

In South Africa, numerous new players are seeking to offer WiMAX services on a national scale. Other licensed operators require access to the 800 MHz band for the deployment of non-broadcasting services. The regulator, ICASA, launched a public process to assess the viability of such sharing, and found that it is feasible.


ITU/R. Brouard

Licensing

In recent years, the trend has been to move away from specific licences to those that are neutral as regards technology and service. This means that operators can offer any service, using any technology, without the need for separate licences. Uganda, for example, implemented a technology-neutral licensing regime in January 2007. Many governments are shifting to a unified authorization system, including Nigeria and Tanzania. In 2005, Morocco issued technology-neutral, unified licences, and Botswana awarded the first service-neutral licence to BTC in March 2007.

Main source: Trends in Telecommunication Reform 2007, published by ITU in September 2007.

	Population	Main telephone lines		Mobile subscribers		Internet users	
	000s	000s	per 100 people	000s	per 100 people	000s	per 100 people
Algeria	33'354	2'841.3	8.52	20'998.0	62.95	2'460.0	7.38
Egypt	75'437	10'807.7	14.33	18'001.1	23.86	6'000.0	7.95
Libya	5'968	483.0	8.09	3'927.6	65.81	232.0	3.96
Morocco	30'735	1'266.1	4.12	16'004.7	52.07	6'100.0	19.85
Tunisia	10'210	1'268.5	12.42	7'339.1	71.88	1'294.9	12.68
North Africa	**155'704**	**16'666.6**	**10.70**	**66'270.5**	**42.56**	**16'086.9**	**10.34**
South Africa	47'594	4'729.0	9.97	39'662.0	83.33	5'100.0	10.75
South Africa	**47'594**	**4'729.0**	**9.97**	**39'662.0**	**83.33**	**5'100.0**	**10.75**
Angola	15'802	98.2	0.62	2'264.2	14.33	85.0	0.55
Benin	8'703	77.3	0.89	1'056	12.13	700.0	8.04
Botswana	1'760	136.9	7.78	979.8	55.68	60.0	3.40
Burkina Faso	13'634	94.8	0.70	1'016.6	7.46	80.0	0.59
Burundi	7'834	31.1	0.41	153.0	2.03	60.0	0.77
Cameroon	16'601	100.3	0.61	2'252.5	13.80	370.0	2.23
Cape Verde	519	71.6	13.80	108.9	20.99	29.0	6.09
Central African Rep.	4'093	10.0	0.25	100.0	2.48	13.0	0.32
Chad	10'032	13.0	0.13	466.1	4.65	60.0	0.60
Comoros	819	16.9	2.12	16.1	2.01	21.0	2.56
Congo	4'117	15.9	0.40	490.0	12.25	70.0	1.70
Côte d'Ivoire	18'454	260.9	1.41	4'065.4	22.03	300.0	1.63
D.R. Congo	59'320	9.7	0.02	4'415	7.44	180.0	0.30
Djibouti	807	10.8	1.56	44.1	6.37	11.0	1.36
Equatorial Guinea	515	10.0	1.99	96.9	19.26	8.0	1.55
Eritrea	4'560	37.5	0.82	62.0	1.36	100.0	2.19
Ethiopia	79'289	725.1	0.91	866.70	1.09	164.0	0.21
Gabon	1'406	36.5	2.59	764.7	54.39	81.0	5.76
Gambia	1'556	52.9	3.40	404.3	25.99	58.0	3.82
Ghana	22'556	356.4	1.58	5'207.2	23.09	609.8	2.70
Guinea	9'603	26.3	0.33	189.0	2.36	50.0	0.52
Guinea-Bissau	1'634	10.2	0.76	95.0	7.10	37.0	2.26
Kenya	35'106	293.4	0.84	6'484.8	18.47	2'770.3	7.89
Lesotho	1'791	48.0	2.67	249.8	13.92	51.5	2.87
Liberia	3'356	6.9	0.21	160.0	4.87	...	...
Madagascar	19'105	129.8	0.68	1'045.9	5.47	110.0	0.58
Malawi	13'166	102.7	0.80	429.3	3.33	59.7	0.45
Mali	13'918	82.5	0.59	1'513.0	10.87	70.0	0.50
Mauritania	3'158	34.9	1.10	1'060.1	33.57	100.0	3.17
Mauritius	1'256	357.3	28.45	722.4	61.50	300	24.10
Mozambique	20'158	67.0	0.33	2'339.3	11.60	178.0	0.90
Namibia	2'052	138.9	6.84	495.0	24.37	80.6	3.97
Niger	14'426	24.0	0.17	323.9	2.32	40.0	0.28
Nigeria	134'375	1'688.0	1.26	32'322.2	24.05	8'000.0	5.95
Rwanda	9'230	16.5	0.18	314.0	3.40	65.0	0.70
S. Tomé and Principe	160	7.6	4.74	18.0	11.51	29.0	18.11
Senegal	11'936	282.6	2.37	2'982.6	24.99	650.0	5.45
Seychelles	81	20.7	25.44	70.3	86.52	29.0	35.67
Sierra Leone	5'678	24.0	0.49	113.2	2.21	10.0	0.19
Somalia	8'496	100.0	1.22	500.0	6.08	94.0	1.11
Sudan	36'993	636.9	1.72	4'683.1	12.66	3'500.0	9.46
Swaziland	1'029	44.0	4.27	250.0	24.29	41.6	4.02
Tanzania	39'025	157.3	0.40	5'767.0	14.78	384.3	1.00
Togo	6'306	82.1	1.30	708.0	11.23	320.0	5.07
Uganda	29'856	108.1	0.36	2008.8	6.73	750.0	2.51
Zambia	11'861	93.4	0.79	1'663.0	14.02	500.0	4.22
Zimbabwe	13'085	331.7	2.54	832.5	6.36	1'220.0	9.32
Sub-Saharan Africa	**719'220**	**7'080.4**	**0.99**	**92'220.0**	**12.90**	**22'499.7**	**3.16**
Africa total	**922'510**	**28'475.9**	**3.10**	**198'153.0**	**21.58**	**43'686.7**	**4.77**

Year-end 2006 provisional estimates. Updated on 11 July 2007.
Source: ITU World Telecommunication/ICT Indicators database 2007.

Bridging the standardization gap

Rwanda hosts a global forum

Government of Rwanda

The forum was opened by Albert Butare, Rwanda's Minister of State in charge of Energy and Communications

The government of Rwanda hosted ITU's first-ever global forum on bridging the standardization gap between developed and developing countries regarding information and communication technologies (ICT). Over 160 participants from 38 countries took part in the meeting, held in Kigali on 2–4 October 2007, chaired by Diogène Mudenge, Director General, Rwanda Utilities Regulatory Agency. Its conclusions were presented to the *Connect Africa* Summit that took place in Kigali on 29–30 October.

The forum was opened by Albert Butare, Rwanda's Minister of State in charge of Energy and Communications. He drew attention to the country's National Information and Communications Infrastructure (NICI) Plan, whose aim is to use the benefits of ICT to help Rwanda achieve, by 2020, middle-income status as a knowledge-based economy. The minister welcomed the support of ITU and the international community in helping Rwanda to achieve its goal.

Also speaking at the opening of the forum was Malcolm Johnson, Director of the ITU Telecommunication Standardization Bureau (TSB). "The significance of the standardization gap is that it contributes to the persistence of the wider digital divide in ICT," said Mr Johnson. "The process of technology transfer and implementation will happen much faster when African engineers can participate in standards development, particularly at the requirements-gathering stage, and are familiar with the relevant standards."

Mr Johnson emphasized the commitment of the ITU management to bridging the standardization gap. He planned to hold a forum in each of ITU's regions every year. "The intention is to cover all the hot topics at one event, not necessarily in too much detail, but to give those that have not been able to participate in the ITU standardization work an overview of what is happening in the Sector, encourage them to increase their participation, and to look at ways that they can benefit from our work." He also encouraged more companies in Africa to become Sector Members and Associates of ITU's Telecommunication Standardization Sector (ITU–T).

Assessing needs and opportunities

The opening session of the forum, chaired by Silas Lwakabamba (Rector of the National University of Rwanda, and former Chairman of the Board of Rwanda Information Technology Authority), looked at Africa's requirements. The economic im-

portance of standards was noted by George Mulamula, from Rwanda's Ministry of Infrastructure. Adoption of recognized standards encourages market entry and enhances competition, while reducing infrastructure costs, encouraging innovation and diversity and reducing transaction costs.

From Cisco Systems of the United States, Jeffrey Spagnola, Vice-President of worldwide service-provider marketing, spoke about the creation of an inclusive information society. Mr Spagnola announced that Cisco's "WebEx" tool would be made available to ITU Member States for remote participation in seminars on standardization in a bid to bridge the gap in this area. He also announced that Cisco would devote an extra USD 10 million to promote ICT for development in Africa, under the Clinton Global Initiative that was launched in 2005 by former United States President Bill Clinton.

John Visser, CTO Office, International Standards, Nortel Networks (Canada), gave a presentation on the One Laptop Per Child (OLPC) project, which is supported by Nortel, among other companies, and is a member of ITU's *Connect the World* initiative. "Over 100 million children in Africa desperately want to go to school," he said, but "schools lack resources and qualified teachers." Recently, however, people in Canada and the United States have become able to buy two of the laptops for a total USD 399, one of which is given free of charge to a child in a developing country. Rwanda's President Paul Kagame has announced that he will offer an additional free laptop for each one donated under the OLPC scheme.

ICT development in Africa

In a session chaired by Romain Murenzi, Rwanda's Minister of State in charge of Science and Technologies, participants were given an overview of ITU activities, in particular those of ITU–T and of the Telecommunication Development Sector (ITU–D). The forum also learned about ICT development in several African countries.

Rwanda

More details of Rwanda's NICI Plan were given by Nkubito Bakuramutsa, Executive Director of the Rwanda Information Technology Authority (RITA). He said that priorities include building a national backbone network, building national data centres, and human capacity building. ITU has assisted RITA with computerization of the immigration and visa system as part of a wider e-government project. RITA has also recently completed the construction of 12 community telecentres, bringing not only connectivity but also electricity to rural areas. Mr Bakuramutsa said the high cost of international bandwidth, mainly delivered by very small aperture terminals (VSAT), is a major constraint on further development of ICT in the country at affordable rates.

Diogène Mudenge presented a case study of telecommunication reform in Rwanda. Three main steps are envisaged: liberalization of the commercial environment; establishment of a legal and regulatory framework, and achievement of universal service. Rwanda has a universal service fund, financed by a 2-per-cent levy on operators. Mr Mudenge said the initial privati-

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"The significance of the standardization gap is that it contributes to the persistence of the wider digital divide in ICT," said Malcom Johnson, Director of the ITU Telecommunication Standardization Bureau (TSB)

What is the "standardization gap"?

The ICT standardization gap refers to the relative inability of developing countries to participate effectively in creating and implementing technical standards, due to a lack of specialist personnel. Standards are an essential tool in bridging the digital divide. They cut costs, thus promoting the establishment of ICT infrastructure and encouraging economic growth.

zation of Rwandatel had not produced the expected results, so the company had been renationalized and is soon about to be privatized once more. Rwandan laws are being revised to take account of ICT convergence, and a competition law is in place. The aim is that Rwanda should become an ICT hub.

South Africa

Theo Hess, Managing Executive, Network Core Operations, Telkom (South Africa), talked about the work of ITU's Service and Network Operations Group (SNO). It provides input to ITU–T Study Group 2, whose current work includes identifying operational challenges and key performance parameters for next-generation networks and services. The feasibility of an African SNO is being investigated. This would mirror regional SNOs in North America, Western Europe and the Asia-Pacific.

From the Southern Africa Telecommunication Association (SATA), John Kimbe looked at telecommunication standardization and quality of service in the Southern African Development Community (SADC). SATA is a trade association representing the region's main incumbent operators. One of the association's concerns is the growing use of voice over Internet protocol (VoIP) services. Another is the high diversity of equipment used in the region, which makes interoperability challenging. Mr Kimbe described his presentation as a "cry for help" to ITU and other partners.

Tanzania

ICT backbone implementation for broadband access in Tanzania was addressed by Peter Ulanga, Principal Telecom Engineer, Tanzania Communications Regulatory Authority. He said Tanzania aims to provide broadband connectivity to all main urban areas. There are some 50 000 users of ADSL at present; 3G/HSPDA is implemented in two cities and there are some limited deployments of Wi-Fi or WiMAX and cable modems. The Tanzanian market is relatively liberalized, with around 6.3 million phone users (mainly mobile) as of March 2007. Around 3600 km of a planned 6000-km backbone network has been built by the country's power company and its gas company. Further investment will require government assistance via public-private partnerships.

Kenya

Thomas Senaji, from Telkom Kenya, described how Kenya has adopted a national broadband initiative, as well as initiatives on rural connectivity and e-government. He said ITU has an important role in helping developing countries to migrate to newer technologies; in human capacity building; in standardization, and in providing forums for all stakeholders. African players must also join these efforts, including operators, users and regulators, he added. Standardization is critical in reducing capital and operational expenditure, and therefore in reducing prices to consumers.

Security issues

The forum heard about ITU's work in the areas of cybersecurity, combating spam, and identity management. Participants were told about the Cybersecurity Gateway, an information portal for all stakeholders, as well as the Global Cybersecurity Agenda launched by the Secretary-General to create a framework for international cooperation in this area. ITU has also joined other institutions in launching the Stop Spam Alliance to raise awareness and create a framework for combating spam.

Pierre-André Probst from OFCOM, Switzerland, outlined the work of ITU's Joint Coordination Activity on Networked Aspects of Identification (JCA-NID). The most common implementation of NID is in radio-frequency identification (RFID), for which there are many possible applications, but in which many standards development organizations are involved. The Joint Coordination Activity expects to deliver a generic architecture model, high-level requirements, a standardization road map and a terms and definitions document.

From Cameroon, Cornelius Fotindong Fonzouk spoke on security and regulatory issues related to electronic communication in that country. He described the principle of public key infrastructure (PKI) cryptography as a way of handling secure documents. ITU has assisted the government of Cameroon in constructing a PKI system at the Ministry of Posts and Telecommunications, and supplied LAN equipment and training. The aim is to extend this to a nationwide platform.

The way forward

The forum's final session raised a number of issues and concluded that:

- the *Connect Africa* Summit in Kigali should give a clear message of support for the ICT standardization process;
- Developing countries should identify focal points to represent them on standardization topics at ITU;
- Ways should be found to enhance the relevance of ITU Study Group activities for developing countries;
- Regional groups should be created for various standardization topics;
- As well as the ITU–T Recommendations already freely available, there should be free access to draft texts and meeting documents, so as to encourage developing countries' participation in ITU–T work;
- There is need for a repository of best practice;
- Transnational firms in Africa should designate local representatives to take part in ITU activities.
- ITU's work should be promoted in Africa's universities and training centres.

The forum participants also recognized that the standardization gap contributes to the persistence of the wider digital divide. Effective participation in ICT standardization work, at ITU and elsewhere, requires a long-term commitment of time and resources, but the results are certainly rewarding. To quote one participant: "The future is not a gift; it is an achievement".

Fotosearch

Getty Images

Bruce Gracie (Industry Canada), Chairman, Radiocommunication Assembly

Assembly approves new technology

for mobile communications and sets direction of radiocommunication studies

Radiocommunication assemblies are normally convened every three or four years, associated with a world radiocommunication conference. They are responsible for the structure, programme and approval of radiocommunication studies at ITU. Their tasks include approving and issuing Recommendations developed by ITU–R study groups, for which they set the work programme.

Over 600 participants attended the Assembly that took place in Geneva from 15 to 19 November 2007. Its results will be taken into account at the World Radiocommunication Conference (WRC-07), in Geneva from 22 October to 16 November 2007.

New developments in 3G standards

On 18 October 2007, the ITU Radiocommunication Assembly (RA-07) took a decision of global importance by adding a WiMAX-derived technology to the IMT-2000 set of standards. This paves the way for the deployment of voice, data, and multimedia services to both stationary and mobile devices, at higher speeds and across wider areas. Significantly, it opens the door to mobile Internet access, catering to demand in both urban and rural markets. This in turn is expected to bring wireless networks to places that were previously impossible or too costly for operators to reach.

International Mobile Telecommunications-2000 (or IMT-2000) is the global standard developed at ITU for third-generation (3G) mobile communications. In 2000, the Radiocommunication Assembly approved five radio access interfaces for IMT-2000. These are specified in Recommendation M.1457-6 of the ITU Radiocommunication Sector (ITU–R).

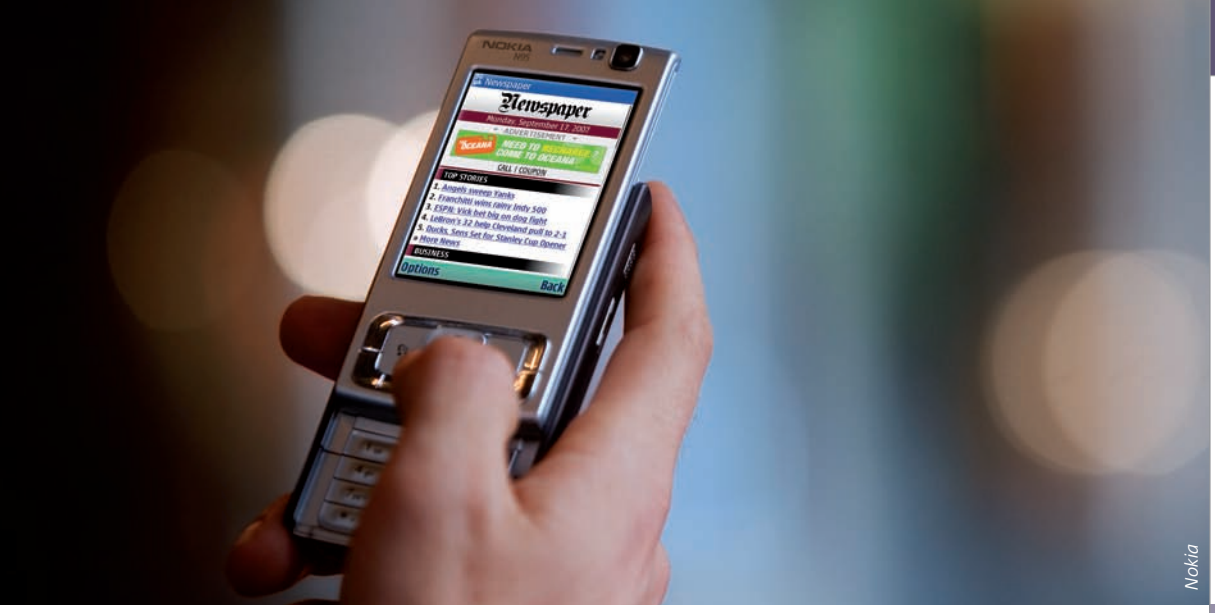
Responding to the demands of the ITU membership to meet the ever-growing needs of the wireless marketplace, the Assembly formally recognized a WiMAX-derived technology as the sixth terrestrial IMT-2000 radio interface by incorporating it into the seventh revision of Recommendation ITU–R M.1457 under the name "IMT-2000 OFDMA TDD WMAN" (or orthogonal frequency division multiple access — time division duplex — wireless metropolitan area network). This new interface is based on the standard IEEE 802.16 developed by the Institute of Electrical and Electronics Engineers. It is the first addition to IMT-2000 since the original technologies were adopted as part of the 3G radio standards being used globally today.

A milestone for WiMAX technology

The Assembly's approval of the revised Recommendation ITU–R M.1457, along with the endorsement of other IMT-related Recommendations and Resolutions, represented the culmination of many months of discussion among administrations, industry and ITU experts.

"It gives me great satisfaction to observe that the ITU Radiocommunication Sector continues to be responsive to the most pressing needs of the wireless industry," commented Radiocommunication Bureau Director Valery Timofeev.

Roger Marks, Chairman of the IEEE 802.16 Working Group on Broadband Wireless Access, said: "I am immensely gratified that the international community, through ITU, has recognized the significance of the IEEE 802.16 WirelessMAN standard."



Nokia


Nokia

For Ron Resnick, President of the WiMAX Forum, it was a very special milestone. "WiMAX technology currently has the potential to reach 2.7 billion people. And today's announcement expands the reach to a significantly larger global population," Mr Resnick said. He added that the decision would allow greater economies of scale, reducing the cost of delivering broadband services via WiMAX, including voice over Internet protocol (VoIP). "The bottom line is that operators across the globe now have the freedom to select the right technology to best meet their business and regional needs," he commented.

IMT-Advanced officially named

The Assembly agreed on "IMT-Advanced" as the name of the future generation of radio technologies beyond IMT-2000. Services provided through IMT-Advanced technologies (also dubbed 4G) could be commercially available by 2011, subject to market demand.

It was decided that "IMT-2000" will be retained as the term for describing 3G services and networks. (The term "IMT" covers both IMT-2000 and IMT-Advanced.) The Assembly also established the guiding principles that underpin the process for specifying radio interfaces for IMT-Advanced.

Future direction of radiocommunications

As Mr Timofeev noted in his opening remarks, RA-07 represented a key transition point in ITU–R from one study period to the next. It provided an opportunity to review what had been achieved, to determine what needs to be done, and to define the structure in which the work will be undertaken.

Accordingly, one of the principal achievements of the Assembly was the restructuring of the ITU–R study groups. Composed of the old Study Groups 8 and 9, a new Study Group 5 on terrestrial services focuses on systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services. A transformed Study Group 4 combines systems and networks for the fixed-satellite service, mobile-satellite service, broadcasting-satellite service and radiodetermination-satellite service.

By configuring the new study groups in this way, two clear objectives were achieved: to establish a structure that keeps pace with technological developments, and to facilitate the participation of the membership in meetings and related activities.

At the helm of the Radiocommunication Assembly 2007

Chairman

- *Bruce Gracie (Canada)*

Vice-chairmen

- *Richard Beaird (United States),*
- *E. Sestacov (Moldova),*
- *Masao Matsumoto (Japan),*
- *Nabil Kisrawi (Syrian Arab Republic),*
- *Reiner Liebler (Germany) and*
- *Idriss Jazaïry (Algeria)*

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Left to right: Malcolm Johnson, Telecommunication Standardization Bureau Director; Houlin Zhao, ITU Deputy Secretary-General; Dr Hamadoun I. Touré, ITU Secretary-General; Kevin Hughes, Head, Radiocommunication Study Group Department; Bruce Gracie, Chairman of the Radiocommunication Assembly; and Valery Timofeev, Radiocommunication Bureau Director

A second major achievement was the appointment of a team of chairmen and vice-chairmen for the six ITU–R study groups dedicated to achieving optimum results quickly and efficiently in a rapidly changing radiocommunication environment. Chairmen and vice-chairmen were also appointed for the Coordination Committee for Vocabulary (CCV), the Radiocommunication Advisory Group (RAG), the Conference Preparatory Committee (CPM) and the Special Committee on regulatory and procedural matters. Given the need to attract experts from a wide cross-section of the ITU membership, criteria such as competence, experience and equitable geographic distribution were among those applied in the selection process.

The Assembly also refined many of the basic Resolutions upon which the working methods of ITU–R are based. Another notable achievement was the approval of two new ITU–R Resolutions on the use of radiocommunications in disasters and emergencies, including prediction, detection, mitigation and relief. As noted by ITU Secretary-General Hamadoun Touré in his opening remarks to WRC-07, the approval of these two Resolutions underlines the active and effective role ITU can play in this key activity.

In summary, the Assembly was highly successful, and places ITU–R on a very sound footing for the future.

New ITU–R study group structure for 2008–2011

Study Group 1
Spectrum Management

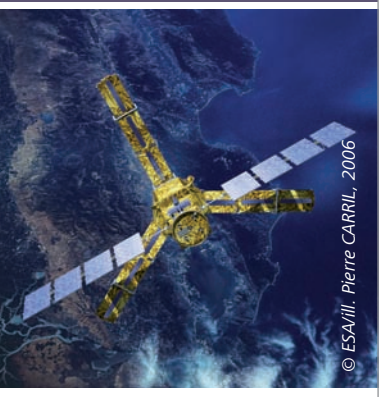
Study Group 3
Radiowave Propagation

Study Group 4
Satellite Services

Study Group 5
Terrestrial Services

Study Group 6
Broadcasting Service

Study Group 7
Science Services



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RA WRC07


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Ministers and ITU elected officials at the opening of Council 2007

Front row (left to right):

- *Telecommunication Development Bureau Director Sami Al Basheer Al Morshid;*
- *Burkina Faso's Minister of Posts and Information and Communication Technologies, Joachim Tankoano;*
- *Mali's then Minister of Communication and New Technologies, Gaoussou Drabo;*
- *Ghana's Minister of Communications, Benjamin Aggrey Ntim;*
- *United Arab Emirates's Minister of Development for the Government Sector, Sultan Bin Saeed Al Mansoori;*
- *ITU Secretary-General Hamadoun I. Touré;*
- *South Africa's Minister of Communications, Ivy Matsepe-Casaburri;*
- *ITU Deputy Secretary-General Houlin Zhao;*
- *Chairman of Bulgaria's State Agency for Information Technology and Communications and Vice-Chairman of the ITU Council, Plamen Vatchkov;*
- *Under-Secretary of State, Italy's Ministry of Communications, Luigi Vimercati; and*
- *Telecommunication Standardization Bureau Director Malcolm Johnson*

Back row (left to right):

- *Council Chairman Frédéric Riehl, Switzerland;*
- *Saudi Arabia's Deputy Minister for International Organizations Affairs, Fareed Y. Khashoggi; and*
- *Radiocommunication Bureau Director Valery Timofeev*

High-Level Segment of Council 2007

Ministers set the tone for debate on cybersecurity and ICT infrastructure

An innovation at the 2007 session of the ITU Council, that took place in Geneva on 4–14 September, was a "High-Level Segment". Ministers from ITU Member States shared views with councillors on two central themes: cybersecurity and ICT infrastructure. These had been drawn from two action lines that arose from the World Summit on the Information Society (WSIS) and for which ITU leads implementation, namely C2 "information and communication infrastructure" and C5 "building confidence and security in the use of ICT".

Cybersecurity

Opening the debate, the Chairman of this year's Council session, Frédéric Riehl of Switzerland, said that cybersecurity had long been one of the main concerns of ITU, which seeks to foster international cooperation on Internet and network security. The growing complexity of cyberthreats, targeting an increasingly interconnected global infrastructure, means that legal tools, surveillance mechanisms and preventive measures must constantly evolve, and that regional and global cooperation must be continually strengthened.

Three ministers (see pages 26–28) outlined their views on what was at stake with regard to cybersecurity, from Cameroon, the United Arab Emirates, and Italy.

Infrastructure development

Projects have been implemented worldwide to improve ICT infrastructure. However, the digital divide between countries, and within countries, remains. Four ministers shared their views on the subject, from South Africa, Burkina Faso, Bulgaria, and Ghana (see pages 31–34).

Maïgari Bello Bouba

Cameroon

Maïgari Bello Bouba

Minister of State, Minister of Posts and Telecommunications

The greatest cyberthreats encountered by Cameroon today are:

- *online piracy, with attacks on government websites and sites belonging to national enterprises;*
- *the dissemination of unlawful content (paedophilia, pornography, drug-trafficking and money-laundering);*
- *fraud (including, for example, the fraudulent use of credit card numbers for online transactions);*
- *espionage and other forms of sabotage, the perpetrators of which break into national computer systems and networks, wreak havoc within websites, disrupt online services and systems, and launch computer viruses.*

The President of the Republic, His Excellency Paul Biya, announced on 3 November 2004 that Cameroon needed widespread access to the Internet. Since then, a number of actions have been taken to ensure the country's smooth entry into the information society.

Several steps have been taken to introduce a national strategy for the prevention of cybercrime, including a specialized survey among administrations and companies to determine how they stand in regard to cybercrime. In addition, the regulatory and legal framework has been strengthened through an act on cybercrime and cybersecurity that is in the final stages of preparation.

In seeking to foster a culture of cybersecurity, the authorities in Cameroon have been playing a driving role, particularly in raising public awareness and educating citizens about the new concept of cybersecurity. Internet service providers (ISP) have been made aware of the need to monitor and control unlawful content disseminated over networks. In addition, a technology watch has been introduced, to keep up with the latest developments.

At the level of central government, a number of measures have been implemented. These include:

- introduction of a policy of prevention and security;
- ongoing development of a secure government intranet, separate from commercial networks;
- ongoing creation of a national agency for information and network security;
- promoting the use of secure networks, based in particular on secure services using a public key infrastructure (PKI) system of encryption. This was deployed with technical and financial assistance from ITU.

At the level of infrastructure, Cameroon intends to develop and make available to operators a next-generation network, or NGN, based on the large-scale deployment, between now and 2012, of optical fibre within the transport segment, in order to remedy the chronic shortage of broadband.

Finally, we are aware that all our efforts would be in vain without strengthened international cooperation. We must undertake a joint and coordinated effort to combat this plague of threats to cybersecurity, which know no geographic, linguistic or ideological boundaries.

Sultan Bin Saeed Al Mansoori

United Arab Emirates

Sultan Bin Saeed Al Mansoori

Minister of Development for the Government Sector

Closing the digital divide and building an inclusive information society should be based on identifying the greatest cyberthreats currently faced by one's country, and by formulating national, regional and international strategies to promote cybersecurity.

In the United Arab Emirates, the greatest cyberthreats are phishing attacks, website defacement, the compromising of information systems and spam messages. Two key elements are being considered in formulating a national strategy to prevent these types of crime. One is to enhance the country's current Cyber Crime Law. Another is to work closely with the information and communication technologies (ICT) sector to secure ICT infrastructure.

These elements are being addressed through the United Arab Emirates Computer Emergency Response Team (aeCERT), established by the Telecommunications Regulatory Authority (TRA). The aeCERT constitutes a national cybersecurity coordination centre. It was set up to ensure the best services for Internet users throughout the country. It will facilitate detection, prevention and response to cybersecurity incidents on the Internet.

The UAE Government has already taken a proactive approach by endorsing the aeCERT project, which will eventually conduct a national security awareness campaign to promote a culture of cybersecurity on national, regional and international levels.

Furthermore, we believe that the highest priority activities for addressing the current and emerging cyberthreats are through enhancing the cybersecurity law and creating additional new laws; through conducting the information security awareness campaign to build a cybersecurity mindset across the nation; through establishing a national centre to disseminate information about emerging threats, vulnerabilities and cybersecurity incidents; and through peering and coordinating with regional and international Computer Emergency Response Teams and Computer Security Incidents Research Teams.

Luigi Vimercati

Italy

Luigi Vimercati

Under-Secretary of State, Italy's Ministry of Communications

Italy considers the Global Cybersecurity Agenda, which the ITU Secretary-General launched in May 2007, to be a very important initiative for building international co-operation in order to develop technical and regulatory solutions to guarantee higher data and user protection in cyberspace. We are ready, on our part, to give the initiative our full-hearted support.

The Italian Government has identified three specific areas as main cyberthreats:

- Paedophilia and cybercrime related to child abuse;
- Cybercrime of an economic nature, such as fraud;
- Cyberterrorism and use of ICT and the Internet to enable terrorist acts.

A number of key elements are being considered in the formulation of a national strategy for cybersecurity and for preventing cybercrime. These key elements include:

- Raising awareness of cybersecurity, among users, businesses, policy-makers and public administration.
- Identifying and implementing concrete technical solutions in network security, in terms of prevention, critical information infrastructure protection, and quality of service.
- Creating a trustworthy, transparent and non-discriminatory legal, regulatory and policy environment to maximize efforts against cybercrime.

The Italian Government is implementing specific activities and policies, including regulations that bind Internet service providers to use filtering systems to prevent access to sites containing child pornography. Also, awareness campaigns are being carried out, through all major media, on the safe use of new technologies by minors.

The Italian National Institute for ICT (ISCOM) has produced publications on several issues related to cybersecurity. At the international level, a body dedicated to dealing with security certification, the *Organismo Cerificazione Sicurezza Informatica* (OCSI), is promoting the concept of common frameworks and cooperation to address the challenges of cybersecurity.

Several actions can be taken by governments to promote a global culture of cybersecurity. For example, they can enhance international cooperation, starting from better information exchange in order to share best practice to identify common issues and possible solutions. Governments should also play an active role in international initiatives on cybersecurity, to define better strategies that can be applied to face the global nature of cyberthreats.

The debate on cybersecurity

The speeches by ministers were followed by a Council debate on cybersecurity. The councillor for **Saudi Arabia** considered it appropriate that the High-Level Segment focused on the issue. Only two weeks previously, Saudi Arabia had supplemented its regulations on e-commerce with an act on computer crime. International cooperation was necessary in order to secure agreement on common principles for strengthening cybersecurity and combating cybercrime.

Japan's councillor said that his country had in March 2006 adopted a set of directives on the management of information security in telecommunications. Japan was intensifying its efforts in that area and was willing to share its experience with other countries. **Canada** considered WSIS action line C5 to be extremely important and that cybersecurity should perhaps be made the main theme of the World Telecommunication Policy Forum in 2009.

The councillor for **Morocco** said it had launched a study on cybercrime, bringing together the government, the private sector, universities and business, in an effort to put together an overall picture of the problem. Threats would be defined and an approach established for determining priorities, as well as operational plans, an area in which ITU's help would be most valuable. **Argentina's** councillor said the Secretary-General's recent visit there had provided an opportunity to bring together all stakeholders, discuss the question of cybersecurity and highlight ITU's driving role in that regard. The Argentine Government had launched a national programme on cybersecurity and would be holding, in October 2007 in Buenos Aires, a regional workshop on the subject.

The **United States** noted that ITU was already working on issues relating to cybersecurity. The Doha Action Plan dealt specifically with the issue, and there was a manual containing information on best practice. Also, an ITU study group was examining cybersecurity issues related to standardization, and the United States was playing an active part in this work. The councillor said it was important to draw upon existing international texts, in particular the Council of Europe's Convention on Cybercrime. At the same time, attention should be paid to the role of the private sector, which could contribute various technical solutions.

Mexico's councillor said ITU must expand its work in the area of cybersecurity. A distinction should be drawn between offences involving content, such as fraud and propaganda, and matters relating to network security and confidentiality. It was also important to step up the fight against computer espionage. It was essential that all concerned should coordinate their efforts to

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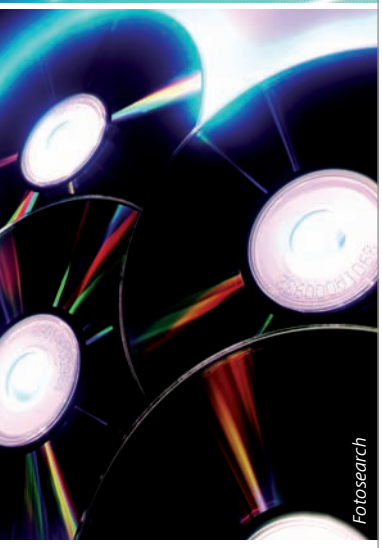
Fotosearch

identify the sources of network attacks and unmask their perpetrators, while at the same time combating illicit content. The councillor for **Venezuela** said that her country had begun taking measures to combat cybercrime and had adopted an act aimed at cracking down on offenders. Much remained to be done in that regard and international cooperation was essential. Children connecting to the Internet must be protected.

Thailand considered attacks on data integrity to be one of the greatest threats. The country had recently adopted an act on computer crime aimed at, among other things, combating unsolicited e-mail. Another area of concern was Internet pornography. The Thai government provided the public with software to block access to pornographic sites, as well as an application for citizens to inform the authorities of unlawful Internet activities. It was important that each government should make the public aware of computer crime and urge them to help fight it. At the same time, measures needed to be taken at the regional and international levels.

The **Philippines** said that a global framework was essential to combat cybercrime. It would perhaps be appropriate to conclude an international treaty on this topic. However, an act permitted in one country might be considered an offence in another. In the Philippines, laws against cybercrime were of limited effect, since they dated back to the 1960s. Draft legislation was being prepared to crack down on offences involving the latest technologies. At the same time, the protection of privacy must always remain paramount. **Malaysia's** councillor said the government had strengthened its legislation on cybersecurity and was in the process of setting up an international partnership (IMPACT) to foster the exchange of experience and combat cyberterrorism. The partnership's activities would include seminars and training events on new technologies, as well as advisory services in the area of ICT security.

France endorsed the establishment of national laws on cybersecurity and enhancing their interoperability. Three major problems appeared to be emerging: questions of content and its legality; attacks which had an economic impact, and attacks against systems themselves. Referring to paragraph 42 of the Tunis Agenda from WSIS, the councillor noted that the protection of privacy should not be seen as conflicting with the struggle for greater security. The observer from the **Syrian Arab Republic** said that the Arab Group had, since 2004, repeatedly called on ITU to take initiatives on cybersecurity in response to the urgent needs of developing countries. Reiterating that call, the observer said that ITU should not put off taking a decision on the matter for another year.

South Africa

Ivy Matsepe-Casaburri

South Africa's Minister of Communications

Ivy Matsepe-Casaburri

South Africa has taken the decision to invest in ICT infrastructure, particularly fixed and wireless, to expand access to services for all citizens, in both urban and rural areas. A process to establish a public company to provide broadband backbone infrastructure is under way. Linked to this is government investment in wireless broadband infrastructure to augment networks where fibre-optics cannot reach.

With regard to the functioning of private and public partnerships, past experience has clearly indicated that the key to success is the creation of clear, specific guidelines for all parties. These should address principles of co-ownership, reporting structure, and profit sharing, among other matters. On the government side, consultation among departments is vital so as to ensure that there are no conflicting policy or mandate interests. And it is important for the government to recognize that partnerships should always be guided and run according to core business principles.

Access to international broadband networks is of critical importance to countries in Africa. It is for this reason that there are concerted efforts by African governments to invest in submarine fibre-optic cables, such as the *NEPAD ICT Broadband Infrastructure Network*. Insufficient investment in linking Africa with the rest of the world is a major contributing factor to high costs of telephony in the region. Also of critical importance is to ensure that African companies own, or co-own, and operate submarine cables that land in their countries.

Security has become a critical issue for many countries across the world. I would like to urge ITU to place this issue high on its agenda, prioritizing efforts to combat cybercrime. We must also ensure that there is the necessary capacity within regions to build, operate, maintain and use ICT infrastructure. In this regard, ITU must continue with programmes to develop ICT skills within developing countries and within regions.

Harnessing the benefits of accessing affordable ICT infrastructure is crucial to building an inclusive information society, thereby enabling people to participate meaningfully in a global knowledge-based economy.

Going digital

South Africa decided in February 2007 that it would switch on the digital broadcasting signal by 1 November 2008 and switch off the analogue signal by 1 November 2011. Use of the freed spectrum is already under discussion to maximize social development in areas such as education.

ITU must prioritize assisting developing countries to ensure that they are able to migrate from analogue to digital by 2015. Financial and human resources will be critical during both the planning and the implementation phases of this migration, thus the need for ITU expertise.

Joachim Tankoano

Burkina Faso

Joachim Tankoano

Burkina Faso's Minister of Posts and Information and Communication Technologies

A technical, economic, legal and institutional study has been initiated to examine the feasibility of constructing a shared broadband backbone connecting to all of Burkina Faso's neighbours and capable of carrying voice, data and video to every main town in the country.

Burkina Faso set to work, in 1997, on a process towards opening its telecommunication sector to competition, with the introduction of a legal and institutional framework. This led to the creation of the *Autorité Nationale de Régulation des Télécommunications* (National Telecommunications Regulatory Authority), the market entry of two private mobile telephony operators, and the partial privatization of the incumbent operator. Since 1 January 2006, the telecommunication sector has been fully liberalized, giving renewed impetus to its development through the entry of new players.

These reforms have produced significant results. Burkina Faso now has a fibre-optic link to Côte d'Ivoire, Mali and Togo, as well as access via Côte d'Ivoire and Senegal to the submarine fibre-optic system. The overall teledensity, both fixed and mobile, rose from 0.41 telephones per 100 inhabitants in 1998 to 10.42 in June 2007, with a growth rate of 60 per cent in 2006. The bandwidth for international Internet connections provided by the incumbent operator rose from 128 kbit/s in 1998 to 197 Mbit/s for uploading and 215 Mbit/s for downloading in December 2006. An asymmetric digital subscriber line (ADSL) was introduced in 2005, making high-speed Internet services available.

In parallel with the reform process, since 1996 the Government of Burkina Faso has also been carrying out pilot projects on the use of ICT for development. In 2004, an integrated e-strategy was adopted in which these technologies are seen as key in the fight against poverty. The aim of this national e-strategy is to ensure that the development of telecommunication infrastructure is accompanied by that of online services and local content, which should help us to move towards achievement of the Millennium Development Goals.

We believe ITU should continue to play a central role in the implementation and follow-up of the outcomes of WSIS. Specifically, ITU should:

- support the development of broadband infrastructure in Africa by fostering new types of public-private partnership;
- support the RASCOM project for the first pan-African communication satellite;
- contribute to the strengthening and harmonization of political and regulatory frameworks to foster the integration of African ICT markets;
- help to reduce the standardization gap between developed countries and the rest of the world;
- facilitate equitable access to the radio-frequency spectrum and satellite orbits;
- contribute to capacity building; and
- encourage other organizations within the United Nations system to implement the WSIS recommendations aimed at placing ICT at the service of the efforts being made to achieve the Millennium Development Goals.

Bulgaria

Plamen Vatchkov

Chairman of Bulgaria's State Agency for Information Technology and Communications, and Vice-Chairman of the ITU Council

Plamen Vatchkov

The High-Level Segment is an excellent opportunity to exchange views and experience. I would like to briefly point out some key figures showing the current position of ICT in the Bulgarian economy.

After 11 years of steady growth, ICT accounts for 8.4 per cent of GDP, which makes it one of the leading sectors of the national economy. The expected growth in information technology for 2007 is 15 per cent on an annual basis. By the end of 2008, the Bulgarian ICT industry is expected to top EUR 2.314 billion. The main factors for this success include:

- macroeconomic stability;
- a long tradition of IT development;
- a legal framework focused on attracting and protecting foreign investments;
- a very well developed educational system in electronics, engineering sciences and computer sciences;
- a liberalized, modernized telecommunication sector;
- more than 5000 ICT companies active in the market.

This year, the State Agency for Information Technology and Communications (SAITC) drafted a *National Programme for Accelerated Information Society Development 2007–2010*. The programme is going to unite and focus the efforts of all involved parties, to establish a more dynamic information society in the country.

We are fully aware that the policy-maker's role in ICT development is to create conditions in which all firms embrace innovation. To achieve this goal in Bulgaria, we need to work in close cooperation with all ICT companies, ICT industry associations, and universities, as well as with consumers.

We envisage measures to extend the Bulgarian National Research and Educational Network to connect 3200 schools. Universities and scientific organizations will be provided with broadband access that will help the process of technology transfer and the development of innovations. One of the main priorities of SAITC is developing the National State Network to provide efficient, reliable and secure communications between public organizations. All regional centres (27, plus the capital) in Bulgaria are expected to be connected in a high-speed fibre-optic ring by the end of 2008. The initial transmission capacity will be about 2.5 Gbit/s, with an option to increase to 10 Gbit/s.

Our vision for the future recognizes that the creativity and inventiveness of our people is our country's greatest asset and has always underpinned Bulgaria's economic success. We see ICT policy as an instrument for promoting a favourable and enabling environment for entrepreneurship and innovation, where the private sector can fully realize its potential.

Benjamin Aggrey Ntim

Ghana

Benjamin Aggrey Ntim

Ghana's Minister of Communications

As we commence a migration of networks from analogue technology platforms to digital technologies, we in Africa — and indeed in all developing economies — need to be mindful that in creating an environment for broadcasting, data, Internet services and telephony to be delivered from a single platform, we have a responsibility to society at large to create an environment of open access so people are not denied their right to the information necessary to enhance good governance.

As ICT and telecommunication policy-makers, we have a duty to the entire world to harmonize our policies and developmental agendas. It is also essential that we develop consensus in our attempt to bridge the digital divide within our countries, and between our nations.

For us in Africa, the challenge is clear. ICT development is not a matter of choice, it is a necessity. ICT is an indispensable tool for providing opportunities in the achievement of our developmental objectives, in particular the Millennium Development Goals and the Action Lines of the World Summit on the Information Society.

At the last ITU Plenipotentiary Conference (Antalya, 2006), we agreed that, to achieve an inclusive information society, infrastructure development is key to ensuring universal and affordable access to ICT. In this regard, governments owe a duty to their citizens to play a key role in pursuing infrastructure development programmes. This will involve participation of the private sector and development partners if governments are to attract and attain the needed investment to promote tremendous growth of the sector.

In Ghana, this growth has been phenomenal in recent years, with the country reaching 6.7 million telephone subscriptions this year — or a teledensity of 32 per cent. Competition, arising from liberalization, has been the driving force behind this growth. To boost Internet access, the government has decided to establish community information centres in all the country's 230 constituencies. Some 72 of these centres have been completed.

Aware that resources are difficult to come by, in undertaking infrastructure development programmes, policy-makers should not think of their country's interests alone, but also those of the regions around them, and the world as a whole. For this reason, I commend the ITU Secretary-General and his team for planning the Connect Africa Summit, in Kigali at the end of October 2007, to bring multi-stakeholder partners from all over the globe to take practical steps to connect our continent to the rest of the world. It is expected to be the beginning of a harmonized, continental connectivity programme.

Ghana is committed to this programme. In extending fibre-optic links throughout the country, our aim is that these should eventually become part of a high-speed broadband network connected to the SAT III submarine cable that terminates on Ghana's coast. This will improve connectivity for all countries in the Economic Community of West African States (ECOWAS).

The debate on ICT infrastructure

After the ministers had spoken, the Council debated the issue of ICT infrastructure. **Senegal's** councillor underscored the importance of setting specific connectivity goals for Africa at the *Connect Africa* Summit (Kigali, Rwanda, 29–30 October 2007), bearing in mind the objectives already established by the World Summit on the Information Society (WSIS) and the United Nations Millennium Development Goals. Priorities had to be set with regard to infrastructure development, as the problems of developing countries were directly linked to lack of investment. Sharing existing infrastructure would allow small operators to enter the market to meet demand. Private investment was most difficult to attract to rural areas, and Senegal planned to draw on its Universal Service Fund for this purpose.

The councillor for **Japan** said that WSIS had achieved a shared vision of the information society and agreed on a system of concrete implementation. The Tunis Agenda for the Information Society attributed a leading role to ITU, along with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Development Programme (UNDP), in facilitating the Geneva Plan of Action, so that people in every corner of the world can reap the benefits of ICT. In working towards the goals of the information society, Japan had provided assistance for the development of infrastructure and human resources, and would continue to do so.

Mali's councillor drew a link between the *Connect Africa* Summit in Rwanda and the World Telecommunication Development Conference (Doha, 2006), in that both emphasized regional initiatives. The greatest possible number of African organizations should be involved in the *Connect Africa* Summit, the councillor said, in particular the African Telecommunications Union. African countries should also support the efforts of the Regional African Satellite Communications Organisation (RASCOM) to launch a pan-African satellite before the end of 2007. ITU should extend the Kigali initiative to other regions as well.

Chairman Frédéric Riehl summed up the main points made during the debate. Participants had agreed that up-to-date, accessible ICT infrastructure was required for all communities — urban and rural. The chairman concluded by saying the *Connect Africa* Summit was a good example of promoting ICT development, through concrete action to meet the Millennium Development Goals and those of WSIS.

Frédéric Riehl, Chairman of the Council and Secretary of State, Switzerland

Council 2007
View from the chair

Leadership of the ITU Council is rotated among the five world regions (Americas, Western Europe, Eastern Europe, Africa, Asia and Australasia). This year, it was the turn of Western Europe to provide a chairman, and Frédéric Riehl of Switzerland was elected to the helm. He opened the Council session (Geneva, 4–14 September) by noting the close ties between ITU and Switzerland, which hosts the Union's headquarters and supports its aims in promoting the information society. "It is an honour for my country, Switzerland, and for me personally, to be chairing the Council this year," Mr Riehl said.

Closing the digital divide is one of the goals of ITU, which "now, more than ever after the World Summit on the Information Society (WSIS), has a healthy stock of goodwill and confidence to its credit. This it must not only conserve but also develop," said Mr Riehl. He pointed to the need to emphasize ITU's role in regard to the Internet. "WSIS established the Internet Governance Forum. The Union can bring its know-how to bear in discussions relating to the important sphere of Internet governance, as well as within the Internet Corporation for Assigned Names and Numbers (ICANN) in general, and its Government Advisory Committee in particular."

The chairman outlined issues that needed to be decided by the Council, beginning with ITU's budget for the 2008–2009 biennium. "This budget has to be balanced, and our financial situation has to be a healthy one. We must also think about how to make savings wherever possible in order to have the necessary resources for investment in future projects. We are all aware of the general desire among the membership to avoid any increase in mandatory contributions. We must therefore be on the lookout for new sources of income, while at the same time making every effort to make better use of those already available to us."

Finding the right balance in using ITU's six official languages was another key issue that Mr Riehl wanted to see resolved. He also said that Sector Member and Associate participation was a special feature of ITU, and one that required further improvement and enhancement. "There are not many international organizations that can enjoy such collaboration with the private sector and maintain a dialogue with all sectors of society: therein lies the wealth of ITU." Mr Riehl added that full attention also needed to be paid to civil society participation, particularly in the wake of WSIS. "This is a new phenomenon for ITU, and we must find an appropriate solution that corresponds to the workings of our organization."

Decisions of Council 2007

ITU's budget for 2008–2009

The Council approved a budget of CHF 322 603 000 for 2008 and 2009. It set the annual contributory unit at CHF 318 000, based on the class of contribution chosen by Member States. For Sector Members, the annual contributory unit is CHF 63 600. The contributions for Associates have been set at CHF 10 600 for those participating in the work of the Telecommunication Standardization Sector (ITU–T) and the Radiocommunication Sector (ITU–R). In the Telecommunication Development Sector (ITU–D), Associates will pay CHF 3975. Associates from developing countries will pay CHF 1987.50.

India doubled its financial contribution from five to ten contributory units, or CHF 3.18 million a year. Announcing the increase, Secretary D.S. Mathur from India's Ministry of Communications and Information Technology, said "India fully supports the mission of ITU to connect the world and, in particular, to develop online resources and strengthen cybersecurity."

Management and Budget Group

Launched at the extraordinary session of the council in Antalya in November 2006, the Management and Budget Group (MBG) will provide guidance to ITU's elected officials on implementing strategic and operational plans, biennial budgets and results-based management, as well as the ongoing projects on travel management, mobility of human resources, procurement, and key performance indicators. The group is open to all Member States of the Council. Observer Member States can also attend its plenary meetings, which will be held annually between ordinary sessions of the Council. The MBG will liaise with other Council working groups, in particular the Group on the Financial Regulations and Related Financial Management Issues (FINREGS).

ITU'S role in implementing WSIS outcomes

The Council recalled how the Plenipotentiary Conference in Antalya had emphasized ITU's role in implementing the outcomes of the World Summit on the Information Society (WSIS).It also recalled the conference's emphasis on ITU's role in international issues concerning the Internet, including management of resources such as domain names and addresses.

After considering a report from its working group on WSIS, the Council asked the ITU Secretary-General to encourage the United Nations Group on the Information Society (UNGIS) to develop a global road map for the implementation of WSIS outcomes up to 2015. The Council also agreed with the group's recommendation that, as well as focal points for the WSIS action lines

Leadership of Council 2007

Chairman

- *Frédéric Riehl (Switzerland)*

Vice-Chairman

- *Plamen Vatchkov (Bulgaria)*

Standing Committee on Administration and Management

Chairman

- *Abu Ismail (Malaysia)*

Vice-Chairmen

- *Makhtar Fall (Senegal) and*
- *Carlos A. Merchan (Mexico)*

ITU/J.M. Ferré

for which ITU is a lead facilitator (C2: ICT infrastructure and C5: cybersecurity), focal points should be appointed for all other action lines in which ITU is a co-facilitator or a partner.

The council also revised the terms of reference of its WSIS working group. Among its duties will be to monitor, and evaluate yearly, actions taken by ITU to implement WSIS outcomes.

Connect the World initiative

The Council noted the collaboration between ITU and other bodies in organizing multi-stakeholder efforts to achieve the goals of the *Connect the World* initiative, including the *Connect Africa* summit and similar events to be planned for different regions. ITU Member States were encouraged to participate in this series of summits and to implement their outcomes.

Fund for the Development of ICT

The Council approved a contribution of CHF 2 million to the Fund for the Development of Information and Communication Technologies (FDICT) for 2007, to support regional initiatives launched at the World Telecommunication Development Conference (Doha, 2006). It also urged the Director of the Telecommunication Development Bureau to pursue efforts being made to improve the quality of projects financed fully or in part by the FDICT, to help them mobilize necessary additional resources from other donors.

An updated resolution from the Antalya Conference reaffirms that a significant part of any surplus income from ITU Telecom activities should be used for telecommunication development projects, primarily in the least developed countries. The Council is to decide every year on the amount to be transferred to the FDICT.

Use of ITU's six official languages

A report from the Council Working Group on Languages highlighted progress in the use of ITU's six official languages on an equal footing. (The languages are Arabic, Chinese, English, French, Russian and Spanish.) The group's report said these are being used more in ITU materials. It added that "with regard to *ITU News*, currently issued in three languages, the transition to six languages is under active consideration." It suggested that making use of all six languages, in *ITU News* for example, would enhance ITU's image and the effectiveness of its public information work.

The group agreed that all ITU databases of terminology and definitions in the six languages should be merged. It also recommended that the secretariat and the Sector Advisory Groups of ITU should propose ways to cut the volume of documents requiring translation. It said that the development of a market-oriented publications policy should be treated as a priority.

The Council endorsed the group's conclusions and recommendations and agreed that it should continue to monitor progress and report to future sessions of the Council on the use of ITU's six official languages.


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Free access to ITU–T Recommendations

The Council decided that ITU standards produced by ITU–T will continue to be available online without charge. This follows a highly successful trial conducted since 1 January 2007, during which some two million recommendations were downloaded worldwide.

Telecommunication Standardization Bureau Director Malcolm Johnson said that not only had the experiment been a success in raising awareness of ITU–T, it would also attract new members to the Sector. And it had helped efforts to bridge the "standardization gap" between countries with resources to pursue standardization issues and those without. "There has been very positive feedback from developing countries," said Mr Johnson. "Last year, exactly 500 ITU–T Recommendations were sold to developing countries; this year, after allowing free access, they have downloaded some 300 000."

World Telecommunication and Information Society Day 2008

"Connecting People with Disabilities: ICT Opportunities for All" has been approved as the theme for the 2008 World Telecommunication and Information Society Day on 17 May.

Future conferences and meetings

World Telecommunication Standardization Assembly 2008

The next World Telecommunication Standardization Assembly (WTSA-08) will convene in Durban, South Africa, on 21–30 October 2008. A Global Standardization Symposium will take place on 20 October 2008 at the same venue.

Fourth World Telecommunication Policy Forum

The fourth World Telecommunication Policy Forum will be convened in Geneva on 25–27 March 2009. It will discuss topics agreed at Antalya: convergence (including Internet-related public policy matters); the development of next-generation networks; the Internet and its implications for several domains, in particular capacity building, especially in developing countries; and emerging telecommunication policy and regulatory issues.

Plenipotentiary Conference 2010

The Government of Mexico invited ITU to hold its next Plenipotentiary Conference in the city of Veracruz. The Council decided that, "subject to the concurrence of the majority of the Member States of the Union," the conference will take place in Veracruz on 4–22 October 2010.

2008 session of the Council

The Council decided that its 2008 session will take place in Geneva on 12–21 November.


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Participants in the forum

Global Youth Forum backs ICT for positive change

ITU Secretary-General Dr Hamadoun I. Touré welcoming the First Lady of Egypt Suzanne Mubarak

Young people from around the world have committed themselves to working together to use information and communication technologies (ICT) for positive change. At the Global Forum on Youth and ICT for Development, held in Geneva on 24–26 September 2007, some 600 participants pledged their support for the Millennium Development Goals. Discussing the theme "Youth and ICT as Agents of Change", they focused on improving such areas as health, education, and economic growth.

The forum was organized jointly by ITU and the United Nations Global Alliance for ICT and Development (GAID). The State of Geneva, the GSM Association and the United Arab Emirates Telecommunications Regulatory Authority sponsored the participation of ITU Youth Forum alumni.

Egypt's First Lady calls on youth to act

ITU Secretary-General Dr Hamadoun I. Touré welcomed the First Lady of Egypt Suzanne Mubarak to the event. Dr Touré expressed his appreciation of Mrs Mubarak's E-Peace initiative, which aims to protect young people from abuse and exploitation via the Internet.

Delivering the keynote speech at the opening session, Mrs Mubarak emphasized the role of youth in achieving peace and economic development. "Promoting the culture of peace is the responsibility of everyone," she said. "Youth are the partners of the future and have the capacity to promote change — from a world that suffers from injustice and fear, into a world of fairness and peace." The critical link between ICT and peace offered "a window into a world of infinite possibilities," she said. Stressing that young people are key players in promoting peace, the First Lady called on Forum participants to join in ongoing efforts.

Partners for the future

Speaking at a round-table session, Director of the ITU Telecommunication Development Bureau Sami Al Basheer Al Morshid emphasized that we need a forward-looking vision to ensure that every child and young person can have unhindered access to ICT. "We must develop a solid ICT infrastructure for youth to help them to be networked and enter the information society," Mr Al Basheer said.

Since 2001, ITU has organized Youth Forums as part of TELECOM events. "It is with great satisfaction that I have seen the positive feedback from these events, showing how they have inspired a number of youths to use ICT as a tool for improving not only their economic well-being, but also that of their communities. And that is why ITU supports such meetings as the Global Youth Forum," Dr Touré said.

Experts meet on Global Cybersecurity Agenda

PhotoDisc

The first meeting of the High-Level Experts Group (HLEG) on the Global Cybersecurity Agenda was held on 5 October 2007 in Geneva. It was chaired by Judge Stein Schjolberg, from Norway, who has been working in the field of cybercrime legislation for more than 30 years. Participating were some 60 experts, from governments, industry, international organizations, academia and research. Their goal was to lay the foundation for a global response to the constantly evolving nature of cyberthreats and the increasing sophistication of cybercrime.

President of Costa Rica looks ahead

The Patron of the Global Cybersecurity Agenda, Dr Óscar Arias Sánchez, President of the Republic of Costa Rica and 1987 Nobel Peace Prize laureate, emphasized the magnitude of the task ahead. "New and emerging threats to cybersecurity cannot be solved by any one nation alone. There is an urgent need for an international framework, giving us international principles and allowing rapid coordination between countries at the regional and global levels. I invite you to join me in supporting ITU's urgent effort, because peace and safety in the virtual world will become an ever more essential part of peace and safety in our everyday lives."

The message was delivered on his behalf by Carlos Garbanzo of Costa Rica's Permanent Mission in Geneva. President Sánchez expressed his sincere hope that the first meeting of HLEG would yield fruitful outcomes to enable work to move forward with the Global Cybersecurity Agenda, which ITU launched on 17 May 2007.

Estonia's message

In a keynote speech, Estonia's Minister of Economic Affairs and Communications Juhan Parts said "the Internet has grown to become the mainstream medium, not merely an alternative, for all types of information exchange in education and health. The Internet can also contribute vastly to development and societal processes, including transparent government and effective democracy." He added that "Estonia has pioneered these possibilities."

The minister reminded participants that their job was to begin practical steps towards producing strategies for enhancing cybersecurity. He said that Estonia had pioneered use of the Internet in its administration, but was facing new challenges. In April and May 2007, for example, it successfully coped with extensive cyberattacks. Mr Parts stressed that many of the elements needed to enhance global cybersecurity were already in place. Others will have to be implemented and, in today's global village, all elements must be coordinated.

Permanent Mission of Costa Rica in Geneva

Dr Óscar Arias Sánchez, President of the Republic of Costa Rica

Government of Estonia

Juhan Parts, Minister of Economic Affairs and Communications of Estonia

More information about the first meeting of High-Level Experts on the Global Cybersecurity Agenda can be found at www.itu.int/osg/csd/cybersecurity/gca/hleg/first_meeting/, or by contacting gca@itu.int

The battle for security

"Confidence and security in using information and communication technologies are fundamental in building an inclusive, secure and global information society," said ITU Secretary-General Hamadoun Touré in his opening remarks to the meeting. "The legal, technical and institutional challenges posed by cyberthreats and cybercrime are global and far-reaching, and can only be addressed through a coherent strategy taking into account the role of different stakeholders and existing initiatives, within a framework of international cooperation."

We are engaged in a fierce battle for the future integrity of the information society, said Dr Touré. Criminals can roam freely on the Internet to exploit vulnerabilities and attack, regardless of location. This means that cyberthreats have become an international problem, requiring a coordinated international response. With its 191 Member States and more than 700 Sector Members and Associates, ITU is uniquely well-positioned to coordinate this international response.

Dr Touré added that complex problems demand expert solutions: that was why he had convened the meeting of HLEG to act as a multi-stakeholder, independent advisory board on the issues. He said the outcome of discussions would help guide work on ITU's Global Cybersecurity Agenda.

Structuring the work

In debating the issues, participants stated that cybercrime is often tied to other criminal activities, including pornography and money-laundering, as well as misuse of information and communication technologies. At the same time, although the Internet is a target, it should also be a major means of disseminating information on cybersecurity.

The remit of HLEG and structure of its work were discussed. Five work areas were proposed, consistent with the five pillars of the Global Cybersecurity Agenda. Leaders for each work area were designated from among the experts, as follows:

- **Legal Measures:** Stein Schjolberg, Judge at the Moss District Court, Norway.
- **Technical and Procedural Measures:** Jaak Tepandi, Professor of Knowledge Based Systems, Institute of Informatics, Tallinn University of Technology, Estonia; Justin Rattner, Chief Technology Officer, Intel Corporation.
- **Organizational Structures:** Taïeb Debbagh, Secretary-General, *Département de la Poste, des Télécommunications et des Technologies de l'Information*, Morocco.
- **Capacity Building:** Ivar Tallo, Senior Programme Officer, United Nations Institute for Training and Research (UNITAR).
- **International Cooperation:** Shamsul Jafni Shafie, Director, Security, Trust and Governance Department, Content, Consumer and Network Security Division, Malaysian Communications and Multimedia Commission; Zane Cleophas, Chief Director, Border Control Operational Coordinating Committee, Department of Home Affairs of South Africa.

A strategic report from each work area will be consolidated into a road map on how best to achieve the goals of the Global Cybersecurity Agenda. The High-Level Experts Group will meet again on 21 May 2008.

ITU Telecom update

Egypt signs host country agreement for ITU Telecom Africa 2008

ITU and the Government of Egypt have signed the host country agreement to hold ITU Telecom Africa 2008 on 12–15 May at the Cairo International Convention and Exhibition Centre. The agreement follows Cairo's selection, announced by ITU on 5 July 2007.

At the signing ceremony at ITU headquarters on 24 September 2007, ITU Secretary-General Hamadoun I. Touré said "we are once again delighted to have the opportunity of staging a Telecom event in Cairo, following the landmark Africa 2004". Dr Touré added that ITU Telecom Africa 2008 represents a unique chance to take stock of the many exciting opportunities throughout the continent, with Egypt showing the lead in new initiatives that aim to provide free Internet access, a computer for every home and broadband connections nationwide.

Egypt's Minister of Communications and Information Technology Tarek Kamel said "the Egyptian government, industry, civil society and business look forward to hosting Africa 2008." He added that stakeholders from all over the world would witness Africa's progress and potential in information and communication technologies (ICT).

Bangkok to host ITU Telecom Asia 2008

ITU Telecom Asia 2008 will take place in Bangkok, Thailand, on 2–5 September. The event will be a major networking platform for players from across the Asia-Pacific region, which includes some of the world's most sophisticated telecommunication markets, mainly in broadband and mobile multimedia services.

"I look forward to seeing, at this event, the latest cutting-edge technologies that are shaping the ICT industry and to the discussion of some of the key trends and policies that will shape its future," said Dr Touré.

Professor Sitthichai Pookaiyaudom, Minister of Information and Communication Technology of the Royal Thai Government, said "we believe that our excellent exhibition and convention facilities, coupled with a dynamic national ICT sector and key strategic position within the region, make us an ideal location for this important event." Bangkok was selected as the venue following a competitive bidding process in which a number of prospective hosts participated.

Dr Tarek Kamel, Egypt's Minister of Communications and Information Technology with Dr Hamadoun I. Touré, ITU Secretary-General, after signing the host country agreement for ITU Telecom Africa 2008

From official sources

Constitution and Convention of ITU (Geneva, 1992)

The Government of the **Socialist People's Libyan Arab Jamahiriya** has acceded to the above Constitution and Convention. The instrument of accession was deposited with the Secretary-General on 10 July 2007. This accession applies to the Constitution and Convention as amended by the Plenipotentiary Conferences of Kyoto, 1994; Minneapolis, 1998; and Marrakesh, 2002.

Instruments amending the Constitution and the Convention of ITU (Antalya, 2006)

The Government of the **Republic of Belarus** has accepted the above instruments. The instrument of acceptance was deposited with the Secretary-General on 28 June 2007. The Government of Belarus confirmed Declarations and Reservations made at the time of signature.

Optional Protocol on the Compulsory Settlement of Disputes Relating to the Constitution and Convention of ITU and to the Administrative Regulations (Geneva, 1992)

The Government of the **Socialist People's Libyan Arab Jamahiriya** has acceded to the above Optional Protocol. The instrument of accession was deposited with the Secretary-General on 10 July 2007.

Final Acts of the World Radiocommunication Conference (Geneva, 2003)

The Government of **Spain** has accepted the above Final Acts. The instrument of acceptance was deposited with the Secretary-General on 11 July 2007.

Protocol revising certain parts of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961) (Geneva, 2006)

The Government of the **Principality of Monaco** has approved the above Protocol. The instrument of approval was deposited with the Secretary-General on 9 July 2007.

Change of name

The Department of Trade and Industry of the **United Kingdom of Great Britain and Northern Ireland** has changed its name to *Department for Business, Enterprise and Regulatory Reform (BERR)*.

areeba Syria, a Sector Member of ITU–D, has changed its name to *MTN Syria (Damascus, Syrian Arab Republic)*.

LOTENY TELECOM, a Sector Member of ITU–D, has changed its name to *MTN COTE D'IVOIRE (Abidjan, Republic of Côte d'Ivoire)*.

Tele2UTA Telecommunication GmbH, a Sector Member of ITU–D, has changed its name to *Tele2 Telecommunication GmbH (Vienna, Austria)*.

Verizon Dominicana, a Sector Member of ITU–D, has changed its name to *Compañía Dominicana de Teléfonos, C. por A. (CODETEL) (Santo Domingo, Dominican Republic)*.

New Sector Member

Telecommunication Development Sector

Moscow Technical University of Communications and Informatics (MTUCI) (Moscow, Russian Federation) has been admitted to take part in the work of this Sector.

New Associate

Telecommunication Standardization Sector

Fujitsu Network Communications Inc. (Richardson, Texas, United States) has been admitted to take part in the work of Study Group 15.

Change of status

Motorola UK Ltd (Basingstoke, United Kingdom), formerly a Sector Member, is now an Associate in Study Group 16 of ITU–T.

Tyco Electronics Raychem NV (Kessel-lo, Belgium), formerly an Associate, is now a Sector Member of ITU–T.

International Telecommunication Union

8th Global Symposium for Regulators

11-13 March 2008

Pattaya
THAILAND

www.itu.int/ITU-D/treg/Events/Seminars/GSR/GSR08/

ITU TELECOM AFRICA 2008
Cairo
12-15 May

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