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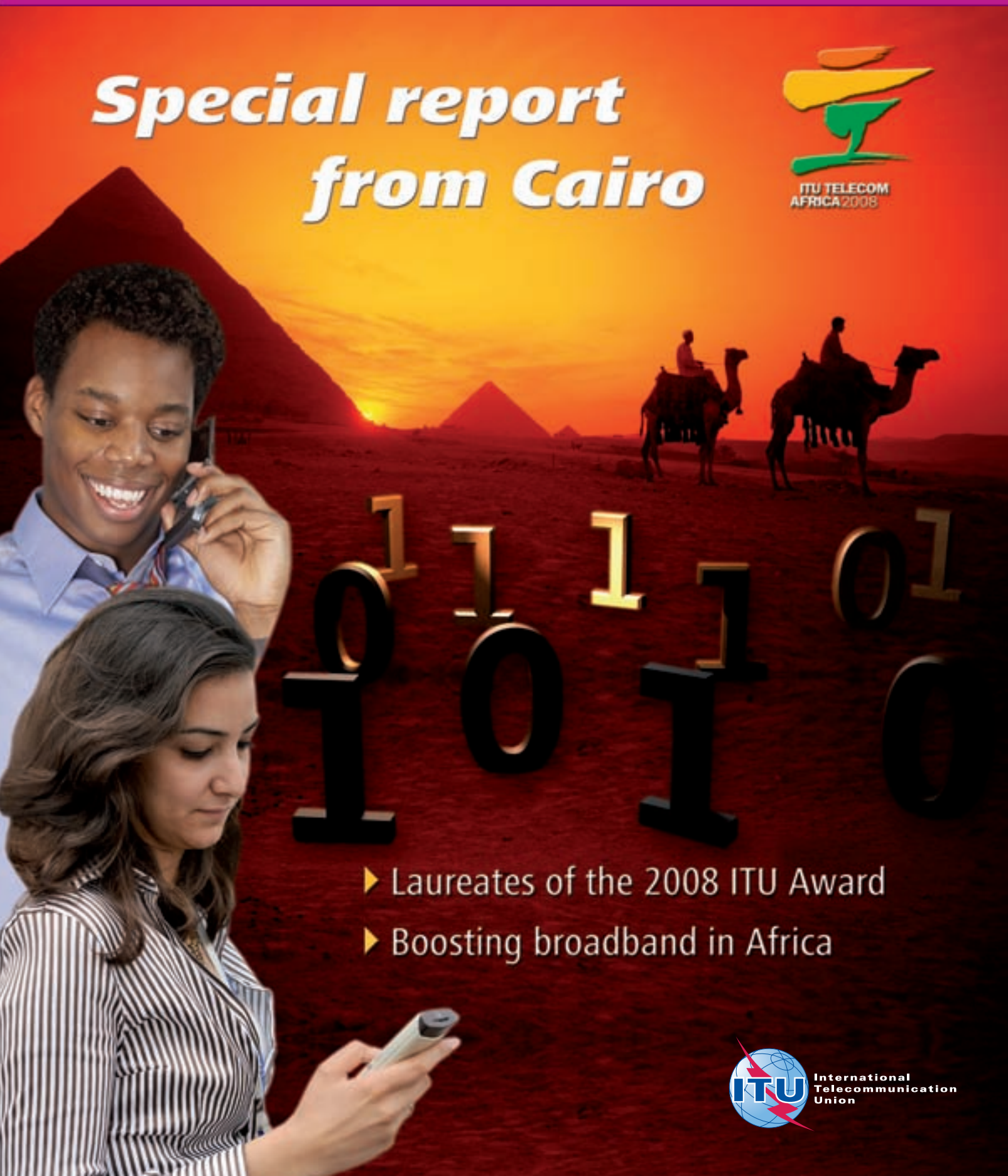

International Telecommunication Union

ITU and Climate Change

International Telecommunication Union

Committed to connecting the world

Special Edition — Special report from Cairo

Contents

Special report from Cairo

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State Information Service (SIS)/Egypt

Egypt's President Hosni Mubarak (centre) cutting the ribbon to inaugurate ITU Telecom Africa 2008, with (from left to right) ITU Secretary-General Hamadoun I. Touré, Egypt's Prime Minister Ahmed Nazif, and Minister of Communications and Information Technology Tarek Kamel

Egypt's President Mubarak inaugurates ITU Telecom Africa 2008

President Hosni Mubarak of Egypt inaugurated ITU Telecom Africa 2008 at the Cairo International Conference Centre on 11 May. The event featured a major industry exhibition and a high-profile Forum. It attracted top government officials (including ministers) and private-sector executives and regulators, as well as young people who will be future leaders in information and communication technologies (ICT).

The Forum, which included the Telecommunication Development Symposium and the Youth Forum, had a total of 199 high-level speakers from 45 countries and six international organizations. Over 30 sessions were held, covering such topics as public-private partnerships, entrepreneurship, capacity building, and cybersecurity.

Space in the exhibition hall was sold out, with 191 exhibitors from 37 countries displaying a broad range of ICT products, applications and services, from mobile telephony to broadband Internet access. Among the companies on show were Alcatel-Lucent, Alkan CIT, Arabsat, Ericsson, ERTU, Etisalat, Huawei Technologies, KT, Nokia Siemens Networks, Qualcomm, Telecom Egypt, Telsol, Vodafone and ZTE. (A full list of exhibitors is on pages 15–16.)

Egypt, China, the Republic of Korea and Nigeria had national pavilions, while China's TD-SCDMA Forum hosted an industry pavilion. For the first time, ITU Youth Forum Alumni also showcased their achievements. In terms of regional distribution, Africa accounted for almost 60 per cent of stands; Asia and Europe were represented by 23 per cent and 12 per cent respectively. Africa 2008 demonstrated that ITU Telecom regional events are becoming more global, while keeping focused on their particular parts of the world.

The Cairo event ended with a special ceremony celebrating World Telecommunication and Information Society Day 2008, in the presence of Egypt's First Lady Suzanne Mubarak (see pages 5–7).

Key statistics from Africa 2008

Exhibitors: *191 from 37 countries*

Total exhibition space: *8254 m²*

VIPs: *over 300 from 92 countries, including ministers, regulators and directors-general, and 120 company CEOs*

Forum participants: *747, including speakers*

Visitors: *some 6000*

See details of Telecom events at www.itu.int/ITUTELECOM/index.html


ITU/J.M. Ferré

Together we can do so much

Empowering people with disabilities

Dr Hamadoun I. Touré
ITU Secretary-General

The celebration of World Telecommunication and Information Society Day took place this year on 15 May in Cairo, Egypt, at the end of our highly successful ITU Telecom Africa 2008. As a highlight of the ceremony, I was delighted to present this year's ITU World Telecommunication and Information Society Award to three distinguished winners. Under the theme *Connecting Persons with Disabilities: ICT opportunities for all*, this year's laureates were honoured for their work in helping to bring new technologies to disabled communities worldwide (see pages 5–13).

It was a great honour for me to present the Award to Egypt's First Lady Suzanne Mubarak, for her efforts in mainstreaming policies to empower disabled children and young people. She was also recognized for her backing of the Cairo Declaration on Supporting Access to ICT Services for Persons with Disabilities, which was jointly developed by ITU and the World Health Organization in 2007.

Also receiving the Award was Andrea Saks, a lifelong pioneer of technologies to help the deaf. Her work with ITU, the United States government and the Internet Governance Forum has paved the way to a more inclusive approach to the development of information and communication technologies (ICT). The third Award went to the DAISY Consortium, a worldwide organization of talking-book libraries and ICT companies which is active in promoting international standards that enable equal access to information for people with reading disabilities.

During the event, I was especially moved by the demonstration of assistive technology by a special guest from Italy, Diamante Albergati. His personal story demonstrates the power of ICT to transform lives. Paralysed from the neck down after an accident, Mr Albergati showed how, using a computer and webcam to track head movements, he has regained his ability to interact with the wider world (see page 14). This is a shining example of the importance of technological solutions in helping people with disabilities — and yet, these solutions are not widely available.

Today, an estimated 650 million people live with disabilities worldwide — of whom three-quarters are in developing countries. Few disabled children in such countries get the chance to attend school, and adults find it hard to earn a living. Although the situation is better in the developed world, a digital divide persists. All too often, people with disabilities find themselves marginalized and unable to afford the technologies that could change their lives.

We must all play our part in ensuring that ICT are made accessible and affordable to people with disabilities, to help them make their valuable contribution to society. In doing so, we should be inspired by the laureates who received this year's ITU Award. We should also remember the words of Helen Keller, a blind and deaf American who became a celebrated advocate for the disabled: "Alone we can do so little; together we can do so much."

First Lady of Egypt Suzanne Mubarak

President and Founder of the Suzanne Mubarak Women's International Peace Movement

> *"I am delighted to accept this Award as a symbol of what we have all achieved together in enhancing the lives of people with disabilities, and as a testament that we still have a long way to go…"*

Winner of an ITU World Telecommunication and Information Society Award 2008, Suzanne Mubarak, the First Lady of Egypt, is a social scientist. She spent her early career studying disadvantaged communities to find better ways of improving their living conditions. By giving a voice to those who are among the least represented in society, Mrs Mubarak has been instrumental in creating institutions to formulate policies, strategies and initiatives directed at empowering women and ensuring the well-being of children and young people. She is the Chairperson of the Advisory Board of Egypt's National Council for Childhood and Motherhood, and President of the National Council for Women.

In her keynote speech in Cairo for World Telecommunication and Information Society Day, Mrs Mubarak congratulated ITU on dedicating this year's celebration to connecting people with disabilities. Upon receiving the Award, she said she was delighted to accept it "as a symbol of what we have all achieved together in enhancing the lives of people with disabilities, and as a testament that we still have a long way to go, and what we can accomplish together in the future".

Mrs Mubarak went on to describe how information and communication technologies (ICT) have the power to break down barriers, allowing vulnerable and marginalized groups to participate in the community, and building their capacities for self-fulfilment. "ICT are real enablers, and their potential for change does not cease to astonish us," she said.

The following extracts from her keynote speech highlight the First Lady's commitment to building an inclusive information society, using ICT.

In 2003, Egypt's First Lady founded the Suzanne Mubarak Women's International Peace Movement. It focuses, among other things, on developing people's capacities, creating avenues for cooperative action and making silent voices heard. In September 2007, the Movement launched a Cyber Peace Initiative, *in partnership with ITU, the Global Alliance for ICT and Development (GAID), the Egyptian Ministry of Communications and Information Technology, and private-sector sponsors. The initiative aims to use the power of ICT to promote a culture of peace.*

Investing in ICT to rekindle the hopes of the disabled

In Egypt, we are investing in ICT to rekindle the hopes of the disabled by increasing their confidence, their independence, and by giving them a sense of control in their lives. In partnership with relevant stakeholders, including the private sector and non-governmental organizations, we have been drawing on these powerful technologies to provide a better quality of life, and to facilitate access to education, employment and social opportunities, as well as in providing professional rehabilitation and awareness programmes. We have been working hard to enhance the skills of trainers and educators to make the maximum use of ICT in their capacity-building programmes. In turn, all these initiatives have opened new horizons for the disabled in terms of networking, solidarity, jobs and independent living.

> *"We need to reverse negative trends by listening to people with special needs, and integrating their ideas and their solutions into our policies and initiatives."*

Through our initiatives we are also supporting and encouraging innovation in the use of universal design in generic software and assistive technology products, as well as introducing accessibility techniques. In this regard, we are proud of the IT clubs in all Egypt's governorates. And we are in the process of developing more mobile units to strengthen our presence in remote and underprivileged areas across the country. Furthermore, we are working to tailor our education programmes for the disabled, introducing modern education and equipment, and modifying the curricula to respond to the needs of students, with a particular focus on skills development through ICT.

However, in spite of this progress, there are still considerable challenges that we must address in order to maximize the impact of our endeavours. We still have a very long road ahead. Across the region, the majority of disabled people have become victims of the digital divide, as they continue to face numerous barriers in terms of access to ICT and the skills required to use them effectively. While some suffer from lack of awareness and training opportunities, many others simply cannot afford the steep costs of acquiring, installing and maintaining computers, as well as obtaining special assistive hardware and software. Unfortunately, the problem of discrimination is also still very much alive throughout our societies. We need to reverse these negative trends by listening to people with special needs, and integrating their ideas and their solutions into our policies and initiatives.

During my involvement in social work for many years, I have had the chance to work with adults and children with various disabilities and impairments. And I can assure you that their world, despite the obvious frustrations, is a fascinating one filled with promise, courage, endurance, special joys and remarkable success stories.

For many of these people whom I was fortunate enough to meet, genuine empowerment, like for all of us, means being able to uphold their dignity and exercise their human rights. It entails feeling that they are part of a community — a community that helps to meet their needs and values their contributions. It represents having the opportunity to participate, knowing that others would respect their views and beliefs.

It is through listening to these individuals, and recognizing the obstacles that they face in their everyday lives,

Youth discuss the Cyber Peace Initiative during an interactive session at ITU Telecom Africa 2008

that I would like to stress today the importance for all of us to develop more inclusive strategies to address this very serious developmental issue. We need to strengthen our partnerships and alliances, and together find ways of removing these obstacles that face disabled people, making ICT more accessible and affordable. We must ensure the implementation of national, regional and international instruments and declarations that promote the positive use of ICT. We must also recognize and support their rights as citizens and participants in the social and economic activities of their communities. I believe that the Cairo Declaration, which was issued in 2007 as the outcome of the regional conference on sharing experience on best practice in ICT services for people with disabilities, is a very positive step in this direction. I hope that our coordinated work will continue to contribute in furthering ties of cooperation between all relevant partners in the Arab and African Regions.

> *"Young people are our hope for an equitable and peaceful information and knowledge society."*

Empowering youth

In pursuing our objectives, we must recognize that young people are our hope for an equitable and peaceful information and knowledge society. It is essential that we use every opportunity to empower them, to maximize the benefits of this new era of technology, with innovative ideas and practices, and work with them as equal and active partners.

I still clearly recall the declaration presented in a previous ITU Youth Forum, where young people committed themselves to using ICT as a tool to promote peace, friendship, democracy, justice and love throughout the African continent, and they called upon their leaders to do likewise. As a response, the Suzanne Mubarak Women's International Peace Movement organized an international youth forum in September 2007 in Sharm-el-Sheikh, Egypt, under the banner, "the youth of power, the power of youth; youth speak, we listen". And listen we did, to 800 young leaders, from all over the world. Youth that were determined and confident in their collective ability to eliminate violence and build a more peaceful and sustainable world. The *Cyber Peace Initiative* that emanated from the forum has put into practice the dreams and aspirations of these young leaders to use ICT as a tool to promote intercultural understanding and tolerance between nations, enhance human security across borders, and foster a culture of peace, in the hearts and minds of global citizens.

I invite and welcome the young people who attended the cyberpeace camps during ITU Telecom Africa 2008 to join us in this exciting new initiative. We have committed ourselves to cooperating and networking harder to ensure that the youth of Africa work together to make this continent the best place in the whole world.

As we celebrate together World Telecommunication and Information Society Day, let us reaffirm our dreams, and rededicate ourselves to the well-being of our continent and its technological advance. And let us open the doors to the resourcefulness and ingenuity of our African youth and provide them with opportunities to take on the challenge of improving the conditions of the continent, and watch them rise to the occasion.

Laureates

Andrea Saks

Renowned advocate of ICT for people with disabilities

> *"Information deprivation and bad access is the problem, not the disability."*

Andrea Saks first became involved in ITU work in 1991. Self-funded, she attends many meetings of study groups and focus groups of the ITU Telecommunication Standardization Sector (ITU–T), promoting the inclusion of accessibility standards. Through attending Study Group 1 of the Telecommunication Development Sector (ITU–D) in its consideration of Question 20, she also acts as a bridge between the two Sectors on the issue.
Ms Saks has been key in the creation of accessibility events at ITU, and is the convener of the Joint Coordination Activity on Accessibility and Human Factors *(JCA-AHF). She is also the coordinator of the Internet Governance Forum's* Dynamic Coalition on Accessibility and Disability.

Winner of an ITU World Telecommunication and Information Society Award 2008, Andrea Saks is the daughter of deaf parents, whom, from an early age, she helped to interact with the hearing world. Her father, Andrew Saks, was a pioneer in developing telecommunication technology for people with hearing difficulties. Ms Saks thus has a strong personal background and interest in the field of information and communication technologies (ICT) for people with disabilities. At the Award ceremony in Cairo, she underlined her commitment to making ICT accessible to all, telling her story in her own words:

I started working with my parents as a two-year-old relay service. This is a service where the hearing person makes the call for the deaf person so they can communicate with the outside world. It must have been a horrific experience for my parents to rely on a two-year-old, but I thought I did a great job. I got better at it by the time I was three. But by the time I was fourteen, I probably was another nightmare, because teenagers are not all that cooperative.

My father and mother met through the oddest circumstance, and it depicts the problem of what deaf people went through, and in some cases, still go through… My father stopped to help this person change a flat tyre in the middle of the night — as you did in those days, without fear — and he was surprised that this man knew to face him and speak to him, so he could lip read. My father asked him "how do you know?" The man said "well, there's this beautiful


Andrea Saks

Andrew and Jean Saks, the parents of Andrea, were both deaf, and, as a child, she helped them communicate with others

deaf girl living next door". That was my mother. The gentleman didn't tell my father his name. But my father had written down his licence plate number, and this helped him trace where my mother was.

My father was not born deaf — but was robbed of his hearing through a mastoid infection. He was an oral speaker. He had the advantage of having parents who had the funds to educate him. So he didn't know any sign language. My mother, who was also totally deaf, was the daughter of a dual national and was educated in Britain… She was an oral speaker too. This was unusual in those times; there were very few oral deaf people as not everyone had the funds to educate their deaf children to speak.

My father was an engineer. He really was angry that he couldn't use the phone as it prevented him from participating in business life. By chance, he met a wonderful character by the name of Robert Weitbrecht, a deaf physicist, who used to do radio TTY ship-to-shore with a telex machine. And with his other friend, Dr James Marsters, who was also deaf, the three of them decided they could convert this technology into something they could use over the phone. They had very little money to do it; they had no support from industry, because it was a very specialized market and therefore it was not economically viable. But they did it — they invented a modem.

However, they had no printing device. They had to use old surplus teleprinters… So they created Teletypewriters for the Deaf Incorporated (TDI), now known as Telecommunications for the Deaf, Inc. They got the equipment up and running, and started talking over the phone — typing the words in the original real-time text (which, by the way, is now standardized by ITU). And they were able to reconvert old, surplus teleprinters which were donated to TDI.

The deaf community got their shirt sleeves rolled up and reconditioned those machines… and they shipped them across the country. And they did it all themselves. It's remarkable. But looking back, I was a little annoyed — I'd lost my powerful place in life. They didn't need me any more. But they had to communicate with the outside world, and relay services weren't quite up and running yet. So I still had some involvement.

The phenomenon was so important that all my mother's friends began to write to her, saying "we want this too". So they (my parents) encouraged me to go to England, and with the British Post Office we started the first deaf telephone network that was international. And we did the first deaf transatlantic call (in 1975)… It was a resounding success… it showed interpersonal text com-

munication was something that people needed and could do, and it's one of the reasons that fax slowly exploded into another wonderful tool we used… Hearing people may not realize it, but the deaf gave you the right to access data across the voice telephone network.

Because there were differences in different countries… this made new barriers for deaf people. One of the problems was that the British wanted to use Telecom Gold, which was an early form of e-mail. So they destroyed the network that enabled American deaf and British deaf people to communicate, because they wanted to do something better. There was no standardization — none whatsoever… We were isolated again. Other countries also wanted to give deaf people communication, and began to make text phones… France went to Minitel; Italy and Germany had other techniques.

That's when I got to ITU. They nearly threw me out because I didn't have any credentials, but fortunately, the US State Department representative decided it might be an interesting idea, and they officially put me into a delegation. That was 1991, and I've been coming to ITU ever since. And what I tried to do at ITU was to put a human face on technology, to make engineers understand that the modem didn't terminate the call, the human being did. I want people to understand that ITU was very receptive to me as an individual. The resistance came from ignorance, or the fact they felt that they were going to have to spend too much money. Or, the fact that they didn't understand how easy or how difficult it might be to implement something. We did have a wonderful standard that was called V.18, which invisibly translated all the flavours of text phones… Also, e-mail came along, instant messaging came along, and deaf people began to use other kinds of communication. But nothing is quite like real-time text.

Lack of standardization was the problem that caused the fracturing of the deaf telephone network. Standardization is necessary. The most important thing we can do is promote good standards that include accessibility features; mainstream them, not make them special… The feeling I have is that now the engineers get it. They really understand. I walk into a room. They know I am there, we work together. I look at a document, we see how we can put in certain features to make it better. I've been working with IPTV, which is Internet protocol television. I've been working with NGN, the next-generation network, so that, within the requirements documents, people's needs are expressed.

The next step is implementation. This is up to legislators and regulators, because industry does have to be encouraged; because it does sometimes cost extra money to do these things… Ten per cent of the world has a disability of some kind. Information deprivation and bad access is the problem, not the disability.

I really hope that all of you… encourage people to use universal design from the beginning; that we have people who design whatever it is — whether it's a gateway… or a device, or a software package, or a television programme of some kind that is going to be emitted through a set-top box — and that we make standards. ITU has been leading the world in accessibility standards. I'm very much an ITU lady. They gave me a home; they basically support what I do, and now we want all of you to support ITU in standardization. We need to have a global standards body that encourages outside people to join, so that standards are accessible and are worldwide and enable disabled people to access ICT.

The DAISY Consortium

> *"DAISY is not a hardware product or a software product. DAISY is a set of knowledge, to make publications accessible for everybody."*

People with reading disabilities cannot access the rich world of printed books or online text. Images, and systems such as Braille, can help, but bringing assistance into the digital age is the DAISY Consortium — one of the three winners of the ITU World Telecommunication and Information Society Award 2008.

The DAISY Consortium was formed in 1996 by talking-book libraries, in order to lead a worldwide transition to the "Digital Accessible Information System," or DAISY. Its mission is to develop, integrate and promote international DAISY standards and technologies that enable people with print disabilities to access materials from mainstream publishers, governments, and libraries. Members of the Consortium actively promote the DAISY Standard, which allows material to be accessed in a feature-rich format that is easy to navigate (see box).

Accepting the award at the ceremony in Cairo, President of the DAISY Consortium Hiroshi Kawamura explained that "DAISY is not a hardware product or a software product. DAISY is a set of knowledge, to make publications accessible for everybody". This includes people who cannot read. "We are going to build a library network across the world which will be shared by people with all types of disabilities, as well as people who are living with an indigenous language without any written script, but with a rich culture, and people who are illiterate. Those are target groups of the DAISY Consortium," said Mr Kawamura.

What makes DAISY special

When normally sighted readers use an encyclopedia or a cookery book, they can easily find the precise page, paragraph or picture they want, bookmark it, move between relevant sections or find an item in an index. This is much less easy when the book is presented as a continuous audio reading. With the DAISY system, text (in audio format), images and graphic content — even in complex page layouts — can be navigated by people with reading difficulties in the same way as the content of ordinary books. The DAISY Standard has helped to open up a new world of information for people who cannot read print due to a visual, physical, or cognitive disability, or simply because texts are not available in their native language.

Laureates

DAISY is a powerful tool in promoting disaster preparedness, because it can make information accessible to all. This was recognized at a DAISY conference held in Phuket, Thailand in 2007 (see right), which issued the Phuket Declaration on Tsunami Preparedness for Persons with Disabilities

Hiroshi Kawamura

The development of DAISY

Mr Kawamura's career path mirrors the history of the DAISY Consortium. He first became aware of the needs of people with reading disabilities when he was a librarian at the University of Tokyo, Japan. "Out of the millions of books in the largest library in the country in 1977, the first successful blind student at the University of Tokyo couldn't read a single one. This fact inspired me to develop library and information services for blind students," he explained. After realizing that other institutions had similar problems, he aimed for the bigger goal of helping students throughout Japan, and worldwide.

With the advent of digital technology in the 1980s, Mr Kawamura began to help promote these new methods of access with the International Federation of Library Associations and Institutions (IFLA). From 1990 to 1995, he was Chairman of the IFLA Section of Libraries for the Blind (SLB). "The last official work I did as Chairman was to host an emergency meeting on the development of international standards for digital talking books, during the IFLA General Council in Istanbul in 1995. The conclusion of this meeting was that the standard should be developed within two years," Mr Kawamura said. He volunteered to take responsibility for implementing the decision.

Six member organizations of SLB established the DAISY Consortium in 1996. They were the Japanese Association of Libraries for the Blind; the Spanish National Organization of the Blind; the Royal National Institution for the Blind (United Kingdom); the Swiss Library for the Blind and Visually Impaired; the Dutch Library for Visually and Print Handicapped Students and Professionals, and the Swedish Library of Talking Books and Braille, together with the Swedish Association of the Visually Impaired. Now, there are 14 Full Members of the DAISY Consortium and over 55 Associate Members (typically, national talking-book libraries), and more than 20 Friends (including developers of production and/or playback hardware or software).

Working for the Japanese Society for Rehabilitation of Persons with Disabilities (JSRPD), Mr Kawamura was able to focus on developing DAISY, incorporating the results of trials of the system by users around the world. In 1997, the DAISY Consortium decided that its file format needed to be based on standards being developed for the Internet, such as the synchronized multimedia integration language (SMIL). Appropriately pronounced "smile", this is an easy-to-learn HTML-like language that enables simple authoring of interactive audiovisual presentations. "The DAISY Consortium has been heavily involved in SMIL development, in order to achieve the long-term goal of synchronization of audio, text, and graphics based on widely accepted open, non-proprietary, and interoperable standards," Mr Kawamura explained. The DAISY 2.0 Specification was released in 1998, followed by DAISY 2.02 in February 2001 and DAISY 3 in March 2002. "I learned a lot through this development process, and am very pleased to know that today the majority of library services for people with print disabilities use DAISY as the *de facto* standard," Mr Kawamura commented.

DAISY for all

The *DAISY for All* project started in 2003 under the leadership of Mr Kawamura, and funded by the Nippon Foundation. The project is the Consortium's primary means of outreach to developing countries, where appropriate

Participants at a DAISY workshop in Johannesburg, South Africa, learned how to produce materials using the system

local organizations are encouraged to become partners. Activities are carried out to help deploy the DAISY system, and so bring people with disabilities into the mainstream of access to information technology. Resource Centres have been established in India and Thailand, and seminars and workshops have taken place in Bangladesh, China, Indonesia, Kazakhstan, Laos, Malaysia, Nepal, Pakistan, the Philippines, Sri Lanka, and Viet Nam.

Mr Kawamura also cited an example of a workshop that had been held in South Africa just before ITU TELECOM AFRICA 2008. "We have just finished a week-long workshop in Johannesburg for 27 trainees," he said. "Among them, we had six blind trainees, two quadriplegic trainees, one deaf trainee, and representatives from the autism community, mental health community, and dyslexic community, and special schools for students with multiple disabilities."

The participants were not only introduced to the DAISY system; they also learned how to use it to produce materials. "The people who attended were very happy when they were able to achieve producing a multimedia, fully accessible version of the *Resource Manual for Disability and HIV/AIDS Training,* edited by Disabled People South Africa," Mr Kawamura said.

An important development under the *DAISY for All* project is open source software called the Adaptive Multimedia Information System (AMIS), which was originally created by JSRPD. The software is used for playing multimedia DAISY books at various speeds, with the full ability to search and navigate text and indexes, and is available in around 20 languages, including Afrikaans, Hindi, Thai, Malay and Sinhalese.

Working with others

Development of a human-oriented information society is a core concept in the outcomes of the World Summit on the Information Society (WSIS), said Mr Kawamura, and there is a "beautiful synergy" between the WSIS Plan of Action and the United Nations Convention on the Rights of Persons with Disabilities that came into force on 3 May 2008. Both recognize the principle of universal design, which, combined with assistive technologies, can "really implement the dream of promoting full participation of people with disabilities in all aspects of social activities; in particular, education, training, employment and sharing of knowledge and information".

Mr Kawamura called for joint action by governments, industry and civil society. As an example of how businesses are collaborating with the DAISY Consortium, he mentioned a joint announcement with Microsoft Corporation on 7 May 2008 that an open source, free plug-in has been released to allow Microsoft Office Word documents to be translated into DAISY contents with one click of the mouse. This will make huge amounts of material newly accessible.

Government and civil society will also be greatly involved in improving accessibility. The DAISY Consortium is very happy to cooperate with all stakeholders, Mr Kawamura said, adding "I accept this prestigious award as an encouragement for further development of our work to realize our dream."

Special report from Cairo

Piers Letcher


Piers Letcher

Diamante Albergati

The audience watched assistive technology demonstrated by one of its users: Diamante Albergati, from Italy, who navigated a series of computer applications using only head movements. He is able to write, surf the Internet, speak on the phone, and even control some home appliances.

Microsoft and QualiLife demonstrate assistive technology

Diamante Albergati tells his story

At the celebration of World Telecommunication and Information Society Day in Cairo, the companies Microsoft and Swiss-based QualiLife got together to demonstrate assistive technology that can be used with a personal computer or mobile phone.

"Assistive technology software, and these innovative accessibility technologies, are designed to help any person to achieve greater independence at home, at work, at school, in hospital and in normal life," said Claudio Giugliemma, CEO of QualiLife.

General Manager of Microsoft Egypt, Karim Ramadan, said that "at Microsoft, our vision — and really our passion — is to help people, companies and governments unleash their potential. This is all the more true, relevant and important for the disabled".

Diamante Albergati, paralysed from the neck down, explained how assistive technology has made his life more fruitful. "I became quadriplegic due to a road accident in 2002," he told the audience. "In 2003, I had to move from my home to a medical institution, called Sim-patia, in Italy, where I was told I would have to stay for the rest of my life due to my physical condition. As a result, I had to give up all my hobbies and interests. I started to isolate myself from others and the world around me".

In 2005, the Sim-patia Institute was equipped with new computer technology and software, and Mr Albergati was able to begin working at the reception desk. "Right now, my days are focused on physical rehabilitation and use of the computer," he said, describing how he surfs the Internet using software linked to a camera that tracks his head movements. As a result, he continued, "I am much happier and interested in life, and I can no longer live without this technology".

Now looking for a home to share with his daughter, Mr Albergati said his goal is "to find a mental calm in my life, renew my relationships with my daughter and friends, and become more independent with advanced technology".

ITU/J.M. Ferré

Stand of the National Telecommunication Regulatory Authority, Egypt

Exhibitors at ITU Telecom Africa 2008

- 4RF Communications
- 77 Elektronika
- Access Bank
- ACT
- Africa Today
- AfricanWaves
- AfriNIC
- Airaya
- Aitelong
- Argus Technologies
- Arkan Integrated Solutions
- Arpu Plus
- Ascend
- ATDI
- Belgacom ICS
- Bright New Ideas
- BusinessWeek
- Celtel Nigeria
- COMMS MEA – ITP
- Communications Africa
- Comsys
- Connect-World
- Coretrust
- CTO
- Datang Mobile Communications
- DCS
- Dempa Publications
- EgyptLinx
- Egyptsat
- Eitesal
- Ericsson
- ERTU
- Etisalat
- ETRI
- Eutelsat
- EXL Technologies

Alcatel-Lucent


Arabsat

Etisalat


Korea Pavilion

- Al Alam Al Youm
- Al Babtain LeBLANC Egypt
- Al Mal
- Al-Iktissad Wal-Aamal
- Alam Rakamy
- Alcatel-Lucent
- Alkan CIT
- Alresala Newspaper
- Apex Technology
- Arabsat
- Center for Documentation of Cultural & Natural Heritage – Egypt
- Centron Telecom
- Chaoqian Communications
- China Pavilion
- China Potevio
- CIT – Chamber of Information Technology and Communication Industry
- Clearline
- Digital Bridge – Sri Lanka
- Dingli Communications
- Dorkel Solutions
- E-Tech
- EATON Power Quality
- Ecocarrier Airello QiiQ
- EConnect
- Egypt Pavilion
- Egypt Post
- Egyptian SMEs
- Fingerprint Consultancy
- Forsk
- FoxxTel
- Galaxy Backbone
- Gaoke
- Geneva Telecom Gateway
- Giza Systems
- GlobeSoft
- Globtel
- Grintek Ewation

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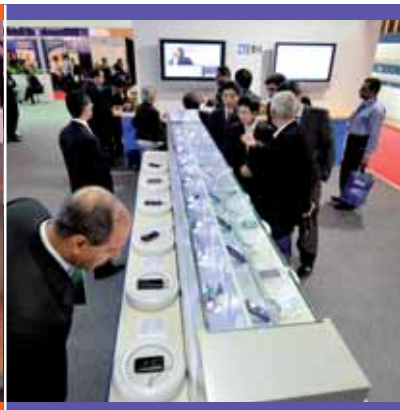
- Groupe Jeune Afrique
- GW
- Hakam Asooq
- Hengxin Technology
- High Gain Antenna
- Huawei Technologies
- i2i Telesource
- IARU
- iBasis
- IC Publications
- ICANN
- ICT Business
- ICT News
- KT
- LS telcom
- MERA Systems
- Microsoft
- Ministry of Communication & Information Technology – Egypt
- Ministry of Social Solidarity – Egypt
- Ministry of State for Administrative Development (MSAD) – Egypt
- Ministry of Telecommunications and Information Society – Serbia
- Misr International Systems
- MisrTech
- Out of Nigeria: Model ICT Interventions for Developing Economies
- Outblaze
- Phase 3 telecom
- Pixtree
- Plumettaz
- Prolight International
- Qualcomm
- Quicktel
- RascomStar-QAF
- Reigncom
- Retemsa
- Symphony Telecommunications
- Talent Management Program
- TD-SCDMA Pavilion
- Telecom Egypt
- Telecommunications
- Telecommunications Industry Association
- TeleTech
- Telsol
- Thailand – ITU Telecom Asia 2008
- Thales Communications
- The Digital Bridge – Israel
- Tianyi

Microsoft


Telecom Egypt

Vodafone


ZTE

- ICTPS
- Information Technology Industry Development Agency – Egypt
- Information Technology Institute – Egypt
- Infoterra
- Inotek Systems
- Intelsat
- Intercomms Publication
- IT Synergy
- ITS
- ITU
- Jharden Communication
- Kemet Egypt
- Kenxinda
- Kommlabs
- Korea IT Times
- Korea Pavilion
- Koschem
- Mobile World Magazine
- MOG for Engineering & Industry
- National Telecommunication Institute – Egypt
- National Telecommunication Regulatory Authority – Egypt
- Nenshi Communication Equipment
- Nera
- Network Telecom Information
- Nigcomsat
- Nigeria Pavilion
- Nile University
- Nilesat
- Nokia Siemens Networks
- Nomotech
- Northern African Wireless Communications
- Omatek Computers
- Orascom Telecom Holding
- Rexking
- Rock the Vote & My Candidate
- Rohde & Schwarz
- RSCC
- SEE
- SES NEW SKIES
- Shenzhen Gold Power Tech
- SHKE
- Si-Tech
- Siae Microelettronica
- SISCOM Group
- SK Telesys
- Smart Village
- SOAM Systel
- Soft Kinetics
- Sparkle
- Strand Accessibility & Strand Development ICT
- Sunnada
- Times Publications
- Tongyu Communications
- VAPEL
- Veraz Networks
- Vodafone
- VRS Media
- Vtion Technology
- Wholeswitch
- WiNetworks
- Winneba Open Digital Village (WODIV)
- Winners Mobile – A Mauritian MVNO
- WorldCall
- WRAP
- Yankee Group
- Youth Forum Alumni Pavilion
- Yulong
- Zinox Technologies
- ZTE

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Opening ceremony of ITU Telecom Africa 2008

All speakers at the opening ceremony of ITU Telecom Africa 2008, in Cairo, Egypt, on 11 May, confirmed that the continent is on the move. When it comes to mobile phones in particular, at least 65 million new subscriptions were added in 2007, according to the eighth edition of the ITU report "African Telecommunication/ICT Indicators," released at Cairo. This success, driven largely by competition, is also creating new services and business opportunities.

Despite this strong growth, much remains to be done to spread the benefits of information and communication technologies (ICT) to a continent that is home to 963.68 million people. In particular, Africa is lagging behind other regions in Internet access and broadband. ITU estimates that, of the 50 million or so Internet users in Africa in 2007, more than half were located in North Africa and in the Republic of South Africa. In the rest of the continent, only 3 per cent of the population is online. The number of fixed broadband subscribers only amounted to some 2 million in 2007.

Making the most of opportunity

These challenges, as well as the impressive progress in Africa's ICT sector, were highlighted by Egypt's Prime Minister Ahmed Nazif in a keynote address. "ITU Telecom Africa 2008 brings in members of the ICT community in Africa, and the whole world, to identify the areas of opportunities and those of challenge, to share effective responses and witness major achievements," the Prime Minister said. Research suggests that inadequate funding and less developed infrastructure are only part of the problem, the Prime Minister commented. "And here please allow me to be frank. One of the main obstacles sometimes tends to be poor implementation of sound policies. Overcoming such problems is more about political commitment and sound governance than just about investing vast amounts in physical infrastructure," he stressed.

For ITU Secretary-General Hamadoun I. Touré, Telecom Africa 2008 marked "a decisive milestone in the Union's commitment to connecting the world". He challenged

Ahmed Nazif, Egypt's Prime Minister

Tarek Kamel, Egypt's Minister of Communications and Information Technology

Hamadoun I. Touré, ITU Secretary-General

Naguib Sawiris, CEO of Orascom Telecom

All photographs on this page are by J.M. Ferré/ITU.

Source: Microsoft and IDV Solutions.

ITU Global View launch

During a tour of the exhibition, Prime Minister Nazif launched ITU Global View, an online, interactive map-based tracking tool created in coordination with Microsoft and IDV Solutions. The software integrates ITU data so that users can check the status of ICT development across the globe, identify gaps and avoid overlaps in collaborative efforts. ITU Global View is designed to help implement the connectivity goals of the World Summit on the Information Society.

Experience the ITU Global View application for yourself at www.itu.int

the ICT industry to explore the many opportunities that are available across the continent. Speaking on behalf of the industry, Naguib Sawiris, CEO of Orascom Telecom, said the mobile revolution would play a role in every aspect of life, from banking and travel, to cultural pursuits and entertainment — and even to the strengthening of democracy.

In his welcome address, Egypt's Minister of Communications and Information Technology Tarek Kamel described Telecom Africa 2008 as "a significant landmark for the African ICT community." He noted the emergence of new concepts that are reshaping the sector. "Innovative technologies, such as blogging, mobile television and Web 2.0, empowered by great technological developments in infrastructure such as broadband wireless and next-generation networks, are bringing to life the promises of convergence on all levels," he said. This means that "regulations should be constantly revisited, fine-tuned and updated," Dr Kamel added.

On the broadband front, Dr Kamel remarked that although Africa does not have a high penetration rate, it has an enormous number of potential users. "It is our obligation to pave the way for African citizens who are not yet online, investigate what the barriers are, work on overcoming them and make sure to maximize Africa's share of the next billion users of the cyberworld. It is our obligation to encourage and attract further investment from Africa and from the rest of the world to make use of the growing market opportunities," he stressed.

Dr Kamel also urged African countries "to intensify and diversify their participation in global Internet governance issues, follow up on all its themes, map them to the conditions of our continent, formulate a position towards the topics under discussion, and come up with answers or solutions to challenges that exist." He said that Egypt was committed to hosting the fourth meeting of the Internet Governance Forum in 2009 — the first time it will take place in Africa.

ICT to help tackle the food crisis

Concluding the ceremony, Prime Minister Nazif called on the major players in the ICT sector to help with international efforts to tackle the global food crisis "by creating innovative mechanisms that can help close the gap between demand and supply, and by introducing tools and applications that would increase productivity and improve the management of food supplies". The Prime Minister described the crisis in food supplies and prices as unprecedented, and one that is affecting all nations, especially in Africa. "Its consequences will last for a long time to come," he said. However, "Egypt is ready to be part of any global and regional partnerships to tackle this important issue of using ICT to manage the global food crisis."

Opening ceremony

Prime Minister Nazif highlights Egypt's ICT success

Egypt's Prime Minister Ahmed Nazif said at the opening ceremony of ITU TELECOM AFRICA 2008 that Egypt has seen great benefits from promoting growth in information and communication technologies (ICT). "As a result of liberalization and deregulation, the ICT sector in Egypt was transformed from one competing for resources to a net contributor to the treasury, enabling us to improve the welfare of citizens through safer transportation, better schools and a healthier environment," he commented.

The country's success is based on multi-stakeholder partnerships. "We engaged the private sector and civil society in the planning and implementation process, and benefited from their capabilities in reaching out to as many sections of society as possible. Such an approach helps create a sense of ownership across the community," Dr Nazif explained. He said that the target of Egypt's economic reform efforts "is a functioning free market economy that takes social aspects into consideration". ICT is a key sector that has maintained growth rates of up to 20 per cent and attracted local and foreign investment of more than USD 8 billion over the past three years. "The competitiveness of Egypt's ICT sector is increasing in the region and beyond," Dr Nazif said.

The Prime Minister also spoke about national projects such as the *Egyptian Education Initiative,* which was launched with the World Economic Forum to enhance the effective use of ICT at all levels of education for life-long learning. In addition, ICT has been used in public health services, including a telemedicine network, health information programmes, and a medical emergency call centre. E-government methods have been applied in a number of sectors to improve the quality of services to citizens. "E-government enhances the performance of public entities, facilitates government transactions, and saves money, time, and effort," Dr Nazif stated.

He went on to describe the *Arabic e-Content Initiative* launched by Egypt to help raise the amount of online material in that language. "Egypt is rich in content and has historically made a significant contribution to the culture of our region through entertainment, books and scientific content. We have a challenge to put it online in digital format with the right mechanisms, at affordable prices, and the right quality of service, in order to ensure that we will continue to benefit the Arab region and the world as a whole," Dr Nazif said.

The Smart Village
The Smart Village in Cairo is Egypt's first technology and business park, and the first of its size in the region. It houses more than 100 companies, including multinational and local telecommunication and ICT firms, financial institutions and banks. ITU's Regional Office has also moved there, and was inaugurated during AFRICA 2008. Egypt is sharing the expertise gained in building the park with African countries such as Gambia and Nigeria

Reza Jafari, Chairman of the ITU Telecom Board of Directors

Francisco Ros Perán, Spain's Secretary of State for Telecommunications and the Information Society

Benjamin Aggrey Ntim, Ghana's Minister of Communications

Chris Gabriel, Chief Executive Officer of Zain/Celtel, Kuwait

Waleed Al Sayed, Executive Director of Customer Services at Qatar Telecom, Egypt

Jay Naidoo, Chairman of the Development Bank of Southern Africa

Boosting broadband in Africa

Forum focuses on repeating the success of mobile

The Forum at ITU Telecom Africa 2008 brought together government ministers, CEOs, regulators and other high-level experts from across the continent and around the world. It was chaired by Reza Jafari, Chairman of the ITU Telecom Board of Directors and Vice Chairman and Managing Director, Eaton International, United States. Opening remarks were made by Egypt's Minister of Communications and Information Technology Tarek Kamel, and keynote speeches by Francisco Ros Perán, Spain's Secretary of State for Telecommunications and the Information Society, and by ITU Secretary-General Hamadoun I. Touré. They were joined by panellists Benjamin Aggrey Ntim, Ghana's Minister of Communications; Chris Gabriel, Chief Executive Officer of Zain/Celtel, Kuwait; Waleed Al Sayed, Executive Director of Customer Services at Qatar Telecom, Egypt, and Jay Naidoo, Chairman of the Development Bank of Southern Africa.

Participants in the 30 Forum sessions looked at a wide range of topics. These included public-private partnerships; convergence and next-generation networks; capacity building; open access and competing infrastructure; market forces and the role of regulation, and mobile as Africa's broadband platform of choice. The Forum wrapped up with an executive round table on cybersecurity.

The overriding message of the Forum was that, although Africa has made impressive progress in access to information and communication technologies (ICT) — reaching 300 million fixed and mobile subscribers at the start of 2008 (of which 265 million are in mobile telephony) — it can do better. Most participants agreed that in Africa, broadband is still the exception, bandwidth remains limited, and most people cannot afford to go online.

"Africa is without any doubt moving fast in telecommunication services and infrastructure. Perhaps the most critical asset the continent is lacking at this stage is broadband," said Spain's Ros Perán in his keynote address. "We know that availability of broadband access is crucial for the expansion of businesses related to knowledge-based services for companies and individuals — for instance, e-commerce and outsourcing; also, for digital public services, such as e-government, e-learning and e-health. Expanding broadband access both in urban as well in rural areas is, thus, one of the greatest challenges, and a clear opportunity, for Africa to benefit from the information society," he added.

All photographs in this article are by J.M. Ferré/ITU, unless otherwise indicated.

Investing in Africa

The Forum reviewed progress made since the *Connect Africa* Summit in Kigali, Rwanda, in October 2007 looked for investment to meet connectivity targets in Africa. Planned investments totaling USD 55 billion were announced at Kigali to expand ICT connectivity to the entire continent by 2015, including a goal of interconnecting cities via broadband links by 2012.

"Seven years before the 2015 target for achieving the United Nations Millennium Development Goals, we need to be bold. We need to devise the strategies that will enable us to achieve these goals," said Dr Touré. Highlighting the importance of ICT in such strategies, he added that African countries need modern, reliable broadband infrastructure in order to create jobs for economic growth. "Investment, not charity, is the solution for Africa's development," Dr Touré stressed.

At the Kigali Summit, the GSM Association (GSMA) announced that its members planned to invest USD 50 billion between 2008 and 2012 in networks in Africa, to provide more than 90 per cent of the population with mobile coverage. During the Forum, it was stressed that to achieve the full social and economic benefits of this investment, African governments need to ensure that sufficient radio-frequency spectrum is available, particularly for mobile broadband services. Governments also need to tackle mobile-specific taxes, high licence fees, international gateway monopolies, and other regulatory bottlenecks.

"Africa's mobile industry is delivering on its promise to blanket the continent's inhabitants with coverage, giving tens of thousands of rural communities their first opportunity to realize the substantial social and economic benefits of mobile communications," said Tom Phillips, Chief Government and Regulatory Affairs Officer of the GSMA. "However, over 300 million rural Africans do not yet have mobile coverage… Developing sustainable business models to serve these communities is a great challenge, which requires the mobile industry and African governments to work together," Mr Phillips added.

Egypt-based Orascom Telecom, which operates throughout the Middle East, expressed an interest in returning to sub-Saharan Africa. "We have created a new subsidiary, Telecel Globe, which will reinvest in Africa's smaller countries. We call on African governments to reduce the taxation and regulatory burden on mobile users so we can maximize the positive impact of this investment," said Naguib Sawiris, Chairman and CEO of Orascom Telecom.

Jeremy Rose, Chairman, International Development Initiatives, Global VSAT Forum (GVF), announced that the global satellite communications sector plans to double the number of Earth station terminals operating in Africa by 2012, to cater for underserved rural and urban areas. He said that to support this growth, "more than 20 satellites will be brought into service to connect Africa during the next five years".

Tom Phillips, Chief Government and Regulatory Affairs Officer of the GSMA

"The digital divide has really become a digital opportunity. Ten years ago, people were saying that what China did in one year, it would take Africa 30 years, but today the highest mobile growth in the world is coming from this region. In the next decade, Africa will be the focal market for the world."

Houlin Zhao, ITU Deputy Secretary-General

Romain Murenzi, Rwanda's Minister for Science, Technology, Scientific Research and ICT

Vincenzo Nesci, President of the Middle East and Africa regional unit of Alcatel-Lucent

Russell Southwood, founder and CEO of Balancing Act, South Africa

As part of its "ongoing drive to help bridge the digital divide in Africa, Intel is working with governments, local IT players, schools and non-governmental organizations to roll out digital inclusion programmes in countries including Egypt, Morocco, Kenya, Algeria, South Africa and Nigeria," said John E. Davies, Vice-President of the Intel *World Ahead Program*. "Africa needs to embrace wireless broadband," he concluded, if it is to bridge the digital divide.

Romain Murenzi, Rwanda's Minister for Science, Technology, Scientific Research and ICT, described how the country is pressing on with projects to help its citizens get high-quality, affordable access to voice, data and video services. "We can't do business in Africa today in terms of data, because it is too expensive. And video is an even bigger challenge," Dr Murenzi commented. But help is on the way. "A project is about to be launched to develop a national broadband backbone infrastructure in Rwanda," the Minister stated. He announced that following a request at a meeting earlier this year, President Paul Kagame of Rwanda, Patron of the Connect Africa Summit, had agreed to champion the development of ICT in Africa.

Sami Al Basheer Al Morshid, Director of ITU's Telecommunication Development Bureau, highlighted some of ITU's key projects and activities. He noted progress towards the establishment of Centres of Excellence, youth scholarships and Internet training centres for Spanish and Portuguese speaking countries in Africa, with the support of the Government of Spain. In addition, an initiative on policy and regulatory harmonization is under way, with the support of the European Commission. Mr Al Basheer pointed to the recent launch of the Village Phone Direct Manual, co-published in six languages with the Grameen Foundation, which is designed to help local partners implement their own projects to provide community access. "ITU is active on many fronts," he said. "We are working with various partners to spread access to ICT across the African continent."

The Forum session on "Africa's markets: challenges and opportunities" also revealed interest in investing in the continent. As Vincenzo Nesci, President of the Middle East and Africa regional unit of Alcatel-Lucent put it, today, the company has a lot more customers and "those customers are fighting each other to gain market share". For Russell Southwood, founder and CEO of the South Africa-based analytical firm Balancing Act, "money is still coming into Africa." It will be used to help African service providers "to deliver a new round of broadband services as the price of bandwidth declines," he said. Countries that lower barriers to market entry, control over-regulation and encourage investment are on the fast track. "If you're not, there may be opportunities, but you won't be part of them," Mr Southwood commented.

How to deliver broadband

Bandwidth is scarce and Internet access prices are generally high across Africa. Monthly usage of 20 hours costs almost 70

per cent of average per capita income in Sub-Saharan Africa while, at over USD 100, the average price of a basic monthly broadband subscription exceeds that income, according to ITU's latest "African Telecommunication/ICT Indicators" report, released in Cairo.

The ITU report says that, in 2007, there were 2 million subscribers to fixed broadband services in the whole of Africa. Only five countries had a broadband penetration of more than one per cent. Improving access to broadband does not seem likely to come via fixed telephone lines: at the end of 2007, the continent had just 35 million. This low penetration, as well as lack of competition, is severely constraining deployment of broadband via asymmetric digital subscriber lines (ADSL).

"Unless we can get Africans onto the same kinds of high-speed connections that many other regions enjoy, we will have another gaping digital divide on our hands," said Mr Al Basheer. One solution could be fibre-optic networks. "Fibre roll-out is immensely important in developing countries, reducing the cost of implementation, the cost of connection, and energy consumption — which is good for Africa, and good for the world," said Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau. East African countries, for example, are collaborating to establish an East African Submarine Cable System (EASSy), which would provide high-speed fibre-optic connectivity at much lower costs.

Eric Osiakwan, Executive Secretary of the African Internet Service Providers Association (AFRISPA), stated that existing and planned fibre-optic projects, including EASSy, are expected to increase competition and bring down prices. He said that almost a dozen systems have been announced, for a total proposed investment of USD 6.4 billion. "There is robust demand and there will be true broadband in Africa at affordable prices. By providing businesses, governments and end users with more reliable fibre-optic links and highways, these projects are also expected to drive the growth of content," Mr Osiakwan commented.

Is the future wireless?

Meanwhile, third-generation (3G) mobile networks are being used for Internet access from fixed locations using data cards in a computer. Eight African countries have launched W-CDMA networks. According to the GSM Association, there were 883 000 W-CDMA subscribers in the region by June 2007. Four countries have also launched HSDPA, which provides faster speeds. "Mobile is only the beginning. The next step is broadband wireless access — which will be essential in Africa for delivering key services such as e-education, e-health and e-government," commented Valery Timofeev, Director of ITU's Radiocommunication Bureau.

In Mauritius and South Africa, 3G subscribers already outnumber DSL subscribers to broadband. Vodacom of South Africa reported that, in September 2007, over 10 per cent of its 3G subscribers used it to for broadband Internet connection with data

Sami Al Basheer Al Morshid, Director of ITU's Telecommunication Development Bureau

Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau

Valery Timofeev, Director of ITU's Radiocommunication Bureau


GSMA/Charles Sturge

A high-speed GSM data connection in a cell phone shop in South Africa

Ernest Ndukwe, CEO and Executive Vice Chairman of the Nigerian Communications Commission

Vitalis K. Olunga, Head of International and Wholesale Services, Safaricom Ltd, Kenya

cards in their computers. EVDO 3G mobile technology has been commercially deployed in almost a dozen African countries, often building on the experience using CDMA 2000 1x, which has emerged as the *de facto* technology for fixed wireless in Africa. According to the CDMA Development Group, 31 African countries had commercially deployed a CDMA2000 1x wireless network by April 2007.

"Given the importance of the Internet and broadband technologies for development and progress on the one hand, and Africa's reliance on wireless technologies on the other hand, the question of mobile as Africa's broadband platform of choice is inevitable," said Ernest Ndukwe, CEO and Executive Vice Chairman of the Nigerian Communications Commission, in his opening remarks to the Telecommunication Development Symposium.

Vitalis K. Olunga, Head of International and Wholesale Services, Safaricom Ltd, Kenya, and Chairman of GSM Africa, underlined that "while it is generally accepted that wireless technologies will play a key role in bridging the digital divide in Africa, ICT policy-makers need to make the right regulatory and strategic decisions to ensure that its competitive advantage is adequately exploited and used for the delivery of broadband". Mr Olunga told the symposium in a keynote address that "Africa's mobile market is still dominated by voice, but there is a trend towards data and mobile Internet services, with several African countries providing advanced data services over the mobile network". However, he added, "it is unclear if low-cost handsets will have the necessary functionalities to be used for data applications, and handset manufacturers need to address this question."

Recommendations from the Telecommunication Development Symposium

The symposium came up with a number of recommendations on boosting broadband in Africa, some of which are highlighted here.

Regulators

- *A stable regulatory environment, with clear and transparent laws and public information, is crucial.*
- *Regulatory authorities need to replicate the mobile liberalization model in Internet and broadband services. They should dismantle the remaining protected (fixed) monopolies, and liberalize international gateways so as to allow for competition.*
- *Regulators should create an environment for infrastructure sharing, so that operators compete on the service level, not on the infrastructure level. There must be clear interconnection policies, to avoid high interconnection charges between operators.*
- *Africa's regulators need to adapt to new market circumstances and think about how to regulate converged services and technologies. Converged regulation should be focused on markets and services, not on companies.*
- *Regulators should avoid over-regulation and when they adopt new regulatory frameworks, these should be flexible and convergence-proof.*

Spectrum

- *Lack of radio-frequency spectrum is a barrier to wireless broadband uptake. Lower frequencies could be liberated to connect rural areas.*
- *The priority for governments should be to get people online, and not to make profit through the licensing of spectrum.*
- *A Pan-African wireless broadband model for Africa could have a common band-plan in the 700 MHz spectrum. Governments could help lower costs by providing this spectrum for free and by coordinating frequency allocation through licensing.*

Public policy

- *Policy makers should stop imposing taxes on ICT devices, since this increases the cost for end users.*
- *Micro-financing schemes could be used, and small businesses supported, to promote the deployment of broadband.*
- *Governments can help to identify applications that address citizens' needs. Applications that are likely to make broadband successful include e-government, e-health, e-learning, e-commerce, and the provision of voice and video services.*

ITU/J.M. Ferré

ITU/V. Martin

ITU videos on YouTube

ITU has launched a video channel to broadcast its high-profile activities. You can now watch highlights on accessibility, climate change, cybersecurity, connecting the world, ITU Telecom Africa 2008, as well as on the World Telecommunication and Information Society Day celebration in Cairo

ITU/J.M. Ferré

Participants in the Youth Forum at ITU Telecom Africa 2008

African youth aspire to a better future

Cyber Peace Initiative

Participants in the Youth Forum learned about the Suzanne Mubarak Cyber Peace Initiative, founded by Egypt's First Lady. It aims to work with young people worldwide on using ICT to address the root causes of conflict by build communication bridges. Forum participants and Egyptian "youth ambassadors" shared views on these issues as they affect the African region and the world.

The Youth Forum at ITU Telecom Africa 2008 opened on 10 May. Some 100 fellows (including alumni from previous Youth Forums) were warmly welcomed by international leaders in the field of information and communication technologies (ICT).

Chairman of the ITU Telecom Board of Directors Reza Jafari, who is also Vice Chairman and Managing Director of Eaton International (United States), stressed that "the most ignored and underused resource in Africa is the magnificent capacity of its people, especially the new generation of leaders and professionals". This generation is committed to transforming Africa into a knowledge-based society that provides a better standard of living for all. "We all have a task to do," he said. "We must develop public and private partnerships with higher educational institutions to train the next generation of leaders for industry, government and society."

The role of young people in promoting a culture of cybersecurity was also at the centre of debate. ITU Secretary-General Hamadoun I. Touré underlined that the challenges to cybersecurity "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".

Egypt's Minster of Communications and Information Technology Tarek Kamel commented that "there is no single solution, but serious dialogue is needed worldwide to combat cyberthreats. ITU can play a big role in leading this dialogue." He went on to stress that "young people are the leaders of tomorrow. You no longer surf the net; you make waves — new waves of innovation and entrepreneurship".

The Youth Forum gives participants a chance to learn and share views on the challenges and opportunities facing today's world of ICT, said the Director of ITU's Telecommunication Development Bureau Sami Al Basheer Al Morshid. "An extra effort should be made at the national and international levels to cater to the needs of young people, in order to motivate them and attract them to the ICT sector," he said.

What is the link between ICT and the alleviation of poverty? That question was posed by Jay Naidoo, Chairman of the Development Bank of Southern Africa. He said that the power of ICT "is fundamentally important" in achieving the Millennium Development Goals.

Representing the African Development Bank (AfDB), Ibrahima N'Diaye stressed that African countries need to improve their ICT infrastructure in order to benefit from the digital revolution. "AfDB has scaled up its investments in infrastructure, and expects to invest 60 per cent of its concessional resources on infrastructure, including ICT, in the next three years," he said. "We must remember that youth are the natural candidates to be trained to gain the necessary expertise for the use and maintenance of this infrastructure," he added.

Chairman of the ITU Youth Forum, Walda W. Roseman, who is also CEO of CompassRose International (United States), recalled that over 1100 alumni from previous Youth Forums had gone on to use ICT in their own projects or to join the ICT industry. The Youth Forum "is a very special place to be," she said. "This is an opportunity where you can work to make a difference for a better world". She told participants that their week in Cairo was "about personal and collective power, and what you do with it". She urged them to have the courage and energy to make things happen. "Nothing could be more powerful than the power of a human network," Ms Roseman said.

Youth Forum Declaration

An important outcome of the Forum was a declaration in which participants promised to contribute "individually and collectively towards improving ICT penetration and its affordability for the betterment of Africa — today and tomorrow". The Youth Forum Declaration will be presented to governments and the ITU membership for consideration and action.

In particular, the Declaration promises that Youth Forum participants will undertake the following actions:

Accessibility: They will play a coordinating role between suppliers, governments, regulators and investors in a bid to connect the unconnected. They will also promote innovation in order to reduce software and hardware prices.

Bridging the digital divide in Africa: They will launch a website to connect young people from different socio-economic backgrounds, enabling them to share experiences and opinions on ways to use ICT in different sectors of the economy.

Cybersecurity: They will encourage regulatory authorities to address issues of cybersecurity, in formulating policy and through the dissemination of information. In so doing, young people hope to "promote a culture of peace to avoid and resolve conflicts in Africa".

Create projects and businesses: They will develop projects that can contribute to such major fields as health care and education. Governments, regulators and the private sector will be encouraged to develop funding mechanisms for ICT-related projects and businesses initiated by young people.

Hamadoun I. Touré

Tarek Kamel

Sami Al Basheer Al Morshid

Jay Naidoo

Ibrahima N'Diaye

Walda W. Roseman

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Alumni tell their stories

Kafui Prebbie told the Forum about his project in Ghana

Youth Forum alumnus Gbenga Sesan, from Nigeria

Youth Forum alumni recounted how their lives changed as a result of participation in previous ITU Telecom events. Several have gone on to launch initiatives in their home countries to enable their communities to join the digital age. Here are two African examples of those success stories.

An open digital village in Ghana

In Ghana, Kafui Prebbie has opened a centre for capacity building through low-cost ICT. Called Winneba Open Digital Village (WODiV), it is driven by a combination of free, open source software and low-cost wireless mesh technologies. The project is based at the University for Education, in Winneba: a coastal town about 55 kilometres from Ghana's capital, Accra. "We are working to build the capacities of African academic institutions, using open standards," explained Mr Prebbie, who added that, since its launch in August 2007, "WODiV has seen over 1000 people visit the centre for either a solution to an ICT-related problem, or to enjoy our ever-stable Internet connection".

The centre was set up according to a sustainable, social enterprise model. "My dream is to make WODiV an ICT centre of excellence that can be replicated not just in Ghana, but in West Africa as a whole," Mr Prebbie said. Looking back at his participation in the Youth Forum at ITU Telecom Africa 2001 in Johannesburg, South Africa, Mr Prebbie described it as "a very valuable experience. I consider that I owe it a great deal of my success."

Building tomorrow's Nigeria

Gbenga Sesan, from Nigeria, runs the Ajegunle.org project. It "provides ICT and entrepreneurship training and internships to transform young people in Ajegunle — a slum in Lagos that is home to about three million people," Mr Sesan explained. "The project seeks to offer opportunities through ICT to connect the huge population of young people in this community with life-changing and wealth-creating opportunities". Every four months, Ajegunle.org trains 100 young people in basic computer and business skills. It also provides them with work experience through internships with local organizations.

Mr Sesan also showcased the Dare to be BIG project ("BIG" stands for "brightest ICT guy/girl"). It features a television show highlighting the potential of ICT in everyday life, business and public institutions, through a competition in which young people seek to become Nigeria's "brightest ICT guy or girl".

Commenting on both projects, Mr Sesan said that he sees a new Nigeria emerging. "These young men and women will adopt information technology for the purpose of personal development, nation-building, regional cooperation and global participation. They may be unknown today, but they are mastering the tool that will change their lives and that of their nation."

Thailand's Minister of Information and Communication Technology Mun Patanotai (left) and Sameer Sharma, Senior Adviser, ITU Regional Office for Asia and the Pacific (right) after signing the agreement to host ITU Telecom Asia 2008 in Bangkok, Thailand

Thailand signs host country agreement for ITU Telecom Asia 2008

ITU and the Government of Thailand, represented by the Minister of Information and Communication Technology Mun Patanotai, have signed the host country agreement for ITU Telecom Asia 2008, which will take place on 2–5 September at the IMPACT Exhibition and Convention Centre in Bangkok. The agreement follows Bangkok's selection, announced by ITU on 19 September 2007. The signing ceremony took place on 22 May 2008 in Bangkok.

"ITU Telecom Asia is regarded as a top-class exhibition of information and communication technologies (ICT)," said Mr Mun. "Apart from being a platform for Thailand and other participating countries to showcase their potential and their readiness in telecommunications technology, the event serves as an international forum for relevant agencies to jointly determine common ICT policy, both locally and internationally, in order to support the future growth of the ICT industry".

The Minister noted that the sector already holds great promise. "The Asia-Pacific region is recognized as having the world's highest total telecommunication investment value, dynamic ICT development and constant advances through innovation," he said.

Speaking via a teleconference link, ITU Deputy Secretary-General Houlin Zhao said that he was pleased to join the signing ceremony live from Geneva. "We are delighted to have Thailand host ITU Telecom Asia 2008. Bangkok was chosen as the venue on the basis of exacting criteria, including financial viability, good facilities and services, as well as the remarkable growth in Thailand's own ICT sector," said Mr Zhao, adding "this choice is a recognition by the world community of Thai efficiency". He said that he was pleased by the high profile being given to the event by the Thai Government. Mr Zhao was speaking on behalf of ITU Secretary-General Dr Hamadoun I. Touré who, was in Turkey attending celebrations of World Telecommunication and Information Society Day.

ITU TELECOM ASIA2008
Bangkok
2-5 September

ITU Telecom Asia 2008 takes place in Bangkok on 2–5 September


Alter


Steve Knight


Devin Kho

A dynamic region

"The Asian market is as dynamic as it is diverse," Mr Zhao commented, adding that the region "offers many opportunities and great potential for future development". The Asia-Pacific is home to more than 3.6 billion people, making it the world's largest regional market for ICT. It is also spearheading the roll-out of the latest technologies and services, from music downloads and video on mobile devices, to Internet protocol television (IPTV). However, some countries in the region are still struggling to provide affordable, basic telecommunication services to their citizens, especially in rural areas.

Under the theme "New generation, new values", ITU Telecom Asia 2008 will enable people at the leading edge of ICT to make the right connections that will unite and improve the industry. The Exhibition will showcase the region's latest advances in products and services. And the Forum will bring together leading experts from government and industry across the Asia-Pacific — and the world — to explore and shape the future of ICT in the region, which looks set to continue its position as a communications powerhouse.

Indeed, of the top 30 broadband economies in 2007, seven were from the Asia-Pacific region, including the Republic of Korea, with a 30.6 per cent broadband penetration, and Hong Kong, China, with 26.1 per cent. The Asia-Pacific also has some of the world's largest and fastest growing mobile phone markets, such as China and India, where the total number of subscribers reached 565 million and 250.93 million, respectively, at the end of February 2008.


ITU/J.M. Ferré

"The Asian market is as dynamic as it is diverse, and the region offers many opportunities and great potential for future development."
ITU Deputy Secretary-General Houlin Zhao

Also participating in the teleconference were Thailand's Permanent Secretary at the Ministry of Information and Communication Technology Sue Lo-Utai and the Chairman of the Committee on Science, Technology, Information and Telecommunications of the Senate, Prasit Pothasuthon. They too looked forward to a successful event. As Mr Zhao concluded, "we will mobilize industry and our Member States to ensure that ITU Telecom Asia 2008 is a resounding success."

ITU/J.M. Ferré

Luis Enrique Cappagli, Argentina's Ambassador to Egypt (left), Reza Jafari, Chairman of the ITU Telecom Board of Directors (centre), and ITU Deputy Secretary-General Houlin Zhao at the announcement of Argentina's selection to host ITU Telecom Americas 2010

Argentina to host ITU Telecom Americas 2010

Buenos Aires, the capital of Argentina, is to be the venue of ITU Telecom Americas 2010, hosted by the country's government. Scheduled for 1–4 March 2010, it will be the sixth such event in the Americas region, comprising the internationally renowned Forum and Exhibition.

The announcement was made by ITU Deputy Secretary-General Houlin Zhao on 15 May, at the close of ITU Telecom Africa 2008, in Cairo, Egypt. Speaking on behalf of ITU Secretary-General Hamadoun I. Touré, Mr Zhao said "ITU is very pleased to be staging Telecom Americas 2010 in Argentina. The region's ICT sector has witnessed significant growth in the past five years and this is an ideal time to be facilitating further partnerships and promoting new advances for the industry and its global agenda."

Luis Enrique Cappagli, Ambassador of Argentina to Egypt, said that "the Argentine Republic appreciates being able to continue working with ITU," especially as Americas 2010 would take place in the country's year of bicentennial celebrations. "Our country is in full expansion, with high levels of economic growth and telecommunication development. It will be a pleasure to receive participants from the Americas, and other regions of the world, to share professional experience with the beautiful backdrop of the Argentine Republic," Mr Cappagli said.

Carlos Lisandro Salas, Secretary of Communications of Argentina, said that the region offers a diverse range of business opportunities and tremendous scope for expanding information and communication technologies (ICT) and services at all levels.

Several countries had expressed interest in hosting the Americas 2010 event, including Brazil, Mexico and Venezuela. A series of consultations were undertaken, with particular consideration given to infrastructure, accommodation, transport, and conference and exhibition facilities. On the advice of the ITU Telecom Board of Directors, the Government of Argentina's offer to host the event was accepted.

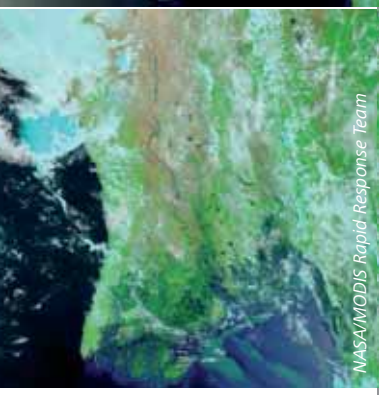
ITU Telecom Americas 2010 will be held at *La Rural Predio Ferial de Buenos Aires*, an international conference and exhibition centre in the heart of the city. It offers all the up-to-date technology and support services required of ITU Telecom events. The pavilions, convention halls and main auditorium provide 45 000 square metres of indoor space, with a further 10 000 square metres outdoors.

ITU TELECOM AMERICAS 2010
Buenos Aires
1-4 March


International Federation of Red Cross and Red Crescent Societies

Cyclone Nargis devastated communities in the Irrawaddy delta region of Myanmar

ITU responds to natural disasters


NASA/MODIS Rapid Response Team

Satellite images of the Irrawaddy delta on the coast of Myanmar on 15 April 2008 (top), and on 5 May after the cyclone (bottom). The entire coastal plain is flooded, affecting several large cities

Devastating cyclone in Myanmar

In the aftermath of Cyclone Nargis that hit Myanmar on 2 May 2008, ITU provided 100 satellite terminals to help restore contact with affected areas. The cyclone devastated the region of the Irrawaddy delta (see photographs on the left). Tens of thousands of people were killed, and tens of thousands more are injured or missing. It was the worst natural disaster in the recorded history of Myanmar.

High winds and floods caused by the cyclone swept away homes, destroyed roads and cut electricity supplies. Communications were also disrupted. To help restore these, ITU provided hand-held Thuraya satellite phones, which also use GSM networks to give accurate GPS coordinates that can aid relief work. In addition, Inmarsat GAN terminals were provided, mainly for voice and high-speed data transmissions. ITU pays for all expenses, including transporting the equipment and usage fees.

The restoration of communication links makes it possible for relief operations to be coordinated more effectively. The mobile terminals are easily transported by road and air to be used both by humanitarian workers and the victims of the disaster.

"I am very disturbed by the high frequency of disasters across the globe," said Sami Al Basheer Al Morshid, Director of ITU's Telecommunication Development Bureau (BDT). Expressing his deep condolences to the government and people of Myanmar, Mr Al Basheer said, "I am heartened by the fact that ITU was one of the very first agencies to arrive in Myanmar with telecommunication resources." Tin Htwe, Director General, Posts and Telecommunications Department of Myanmar said that "in the light of the level of damage caused by Nargis, we warmly welcome ITU's offer of assistance."


Miniwiki.org

Chinese emergency teams save survivors

Massive earthquake in China

Just ten days after Cyclone Nargis, a massive earthquake struck Sichuan province in central China on 12 May. More than 65 000 people were killed, hundreds of thousands were injured, with many people still missing and millions left homeless. The earthquake, which destroyed infrastructure across a wide area and was felt some 1500 kilometres away in Beijing, was China's worst natural disaster in three decades.

ITU sent 100 satellite terminals that could be easily transported to the stricken region, in order to facilitate rescue and relief operations. The terminals were contributed by Thuraya, while FedEx Switzerland carried the equipment to China free of charge. ITU will bear all other costs related to the deployment.

"On behalf of ITU, I would like to extend our profound sympathy to the government and people of China on the terrible tragedy that struck Sichuan province," said ITU Secretary-General Hamadoun I. Touré. BDT Director Mr Al Basheer said: "I would like to assure the government that ITU is ready to provide expertise in carrying out telecommunication network damage assessments, aimed at paving the way for the rehabilitation of the damaged telecommunication infrastructure."

From China's Ministry of Industry and Information Technology, Vice Minister Xi Guo Hua said: "I would like to express our heartfelt gratitude to ITU for the sympathy shown and the kind offer of satellite equipment". Because of the severe damage and loss of life, "our government is handling the disaster as a matter of top priority, mobilizing all resources available for the rescue work and trying every effort to minimize the extent of damage as a result of the earthquake," he said.

Framework for cooperation

The rapid deployment of the satellite terminals in both Myanmar and China was made possible under the ITU Framework for Cooperation in Emergencies (IFCE), which was launched in December 2007 at the "Global Forum on Effective Use of Telecommunications/ICT for Disaster Management: Saving Lives" (see *ITU News* of December 2007).

The framework has benefited from the generous contribution of funds and equipment from its partners: FedEx, ICO Global Communications, Inmarsat, Iridium, TerreStar Global, Thuraya, and Vizada.


Oldbacon

The Sichuan earthquake buckled roads and caused dangerous rock falls

Promoting ICT for people with disabilities

Joint ITU-G3ict Forum 2008 looks at the role of standardization

The Joint ITU-G3ict Forum 2008 was the first outcome of the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF), established in December 2007 to harmonize ITU's activities in helping to connect people with disabilities.

ITU and the Global Initiative for Inclusive ICT (G3ict) held a joint forum on "the UN Convention on the Rights of Persons with Disabilities: challenges and opportunities for ICT standards," on 21 April 2008 in Geneva. The meeting considered technical standards, product development, and public policy in implementing the Convention, which came into force on 3 May this year.

A huge but worthwhile task

In a welcome address Malcolm Johnson, the Director of ITU's Telecommunication Standardization Bureau, said that people with disabilities are an important constituency that represents 10 per cent of the global population. "I can confirm that ITU is committed through its work to extending the benefits of the information society to all," Mr Johnson declared.

Speaking on behalf of Sami Al Basheer Al Morshid, Director of ITU's Telecommunication Development Bureau (BDT), Yury Grin, Deputy to the Director of BDT pointed out that the great majority of people with disabilities live in developing countries, which have many claims on limited resources. Nevertheless, these countries also have a chance to leapfrog ahead. "The challenge is to get the message to policy makers in developing countries on the advantages that accessible information and communication technologies (ICT) have to offer to solve their day-to-day problems," he said.

Standards work required

Axel Leblois, the Executive Director of G3ict, explained that the group is an initiative of the United Nations Global Alliance for ICT and Development (GAID). It involves the private sector, international development institutions, non-governmental organizations and academia, and has been formed to facilitate implementation of the UN Convention in the field of ICT.

Mr Leblois said that 14 of the 32 non-procedural articles of the Convention have implications for ICT. They cover such areas as education, employment, emergency response and independent living for people with disabilities. In particular, Article 9 includes the obligation for signatory governments to "develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public".

Beneath the Internet cloud

It is hard for assistive technologies to keep up with advances in mainstream ICT, pointed out Gregg Vanderheiden, a professor in


ITU/S. Acharya

During the forum, Yury Grin, Deputy to the Director of BDT (right), and G3ict Executive Director Axel Leblois (left) signed an agreement on collaboration between ITU and G3ict to develop an online toolkit on ICT and the needs of people with disabilities. Aimed at policy makers, the toolkit will support global standards and act as a platform for sharing best practice. Also pictured (centre) is Pierre-André Probst, Chairman of ITU–T Study Group 16, which is involved in work to improve accessibility.

the Department of Industrial and Systems Engineering, University of Wisconsin-Madison, United States. "Computing is evolving and moving away from the personal computer model to the ubiquitous, or 'cloud' model," he said. Therefore, we need ubiquitous accessibility, and adapting existing devices will not work.

Judy Brewer, Director of the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C), said that the Internet has become an essential resource. WAI has created "Web Content Accessibility Guidelines," she said, as well as those on authoring tools for software, accessibility of browsers and media players, and interoperability with assistive technologies.

Hiroshi Kawamura, President of the DAISY Consortium, talked about its strategy of developing accessible, synchronized, multimedia technology based on open, non-proprietary and interoperable standards, in order to help people access and share information. The DAISY Consortium was a recipient of ITU's 2008 World Telecommunication and Information Society Award, and there are details of its work on pages 11–13.

The new technology of television delivered via the Internet protocol (IPTV) was the topic of a presentation by Clive Miller, Technical Broadcasting and Engineering Consultant with the Royal National Institute of Blind People (RNIB), United Kingdom. IPTV has great potential, but needs captions, audio descriptions and on-screen sign language facilities to give disabled people full access to programmes. The question is, are these services to be provided by the broadcaster or by the maker of televisions and other equipment? "Do not consider end-user equipment in isolation from the system," said Mr Miller. What is needed is "holistic accessibility".

Such use of IPTV is covered by the Accessibility Checklist produced by ITU's Telecommunication and Standardization Sector (ITU–T). Gunnar Hellström, of Omnitor, Sweden, served from 1997 to 2004 as Rapporteur for Accessibility to Multimedia within ITU–T Study Group 16, which worked on the checklist. "We are just passing the big bang of communication development," he said, and next-generation networks (NGN) offer "a unique opportunity to include accessibility from the beginning in new designs." The Accessibility Checklist provides a simple and effective framework for standardization working procedures, Mr Hellström said. "There is an urgent need for effective take-up of these working procedures among mainstream standardizers."

Government and business

Cynthia D. Waddell, Executive Director, International Center for Disability Resources on the Internet, highlighted the role of governments in carrying out ICT obligations of the Convention. She cited examples of best practice and pointed to resources for governments and standards organizations.

Standardization is crucial in developing ICT that is designed with disabled people in mind

An update on work in this area in the United States was described by Jim Tobias, President, Inclusive Technologies, and Co-chairman of the Access Board's Telecommunications and Electronic and Information Technology Advisory Committee (TEITAC). Inmaculada Placencia Porrero and Martina Sindelar, of the European Commission Directorate General Employment, Social Affairs, and Equal Opportunities, gave an overview of the European Union's strategy, from social and market perspectives. All these speakers emphasized the need for international harmonization of accessibility standards.

From a business point of view, the need to include universal design and accessibility "directly impacts our competitiveness in public-sector opportunities," said Roman Longoria, Vice President for User Experience at Computer Associates (CA), which is a major international vendor of software. But although there are many myths regarding the costs of including accessibility in the design of products and services, in fact it makes sense for business (see Figure 1). "Above all, it is the right thing to do," said Mr Longoria.

As governments begin to set out policies and standards or legislation, companies can be encouraged to contribute innovative research and development, said Frances West, IBM Human Ability and Accessibility Center. "From a private industry standpoint, we're doing our part, but we do need the government to meet us halfway," she said. "We need to come together and create a business model that drives public and private collaboration and innovation."

At the close of the forum Andrea Saks, Convener of the JCA-AHF and also a recipient of ITU's 2008 World Telecommunication and Information Society Award (see pages 8–10), called for participants to "spread the word" and put disability issues into the mainstream. And standardization is essential, she added. "Without standards, we can't function in the realm of accessibility."

Figure 1 — Accessibility is good for business

MYTH	FACT
Accessibility compliance is expensive	Once standards and processes are in place, incremental costs are minimal
Achieving compliance is difficult	Implementing industry best practices is done via relatively simple markup or user interface code and straightforward test plans
Special skills are required	Training is required, but a lot of it can be done online, and the training is relatively affordable
Accessibility can be patched on at the end of the cycle	If you are not designing your product to be accessible, it will not be
Accessibility compliance is a "nice to have" feature	The global public sector will require compliance
The costs outweigh the benefits	The return on investment speaks for itself

Source: Roman Longoria, CA.

Kyoto meeting examines ICT and climate change

In December 1997, at a meeting in Kyoto, Japan, the world took practical steps to combat global warming by adding the Kyoto Protocol to the United Nations Framework Convention on Climate Change. So it was appropriate that the city was the venue for a Symposium on ICT and Climate Change, held by ITU and Japan's Ministry of Internal Affairs and Communications (MIC) on 15–16 April 2008, and organized by the ITU Association of Japan. The symposium was chaired by Takashi Hanazawa, Senior Vice President, Director R&D Planning Department, NTT. There were some 260 participants, drawn from the private sector and a wide range of organizations including research institutes, international organizations and governments.

"Global warming affects everyone on this planet and, for this reason, international responses are needed," said Japan's Vice-Minister for Internal Affairs and Communications Satoshi Ninoyu in his welcoming address. "It is in this dire situation that information and communication technologies (ICT) offer a ray of hope and are expected to contribute to addressing the problems of global warming by reducing traffic volumes and increasing the efficiency of production, logistics, and consumption."

In a keynote speech, Malcolm Johnson, the Director of ITU's Telecommunication Standardization Bureau (TSB), stressed that "it is now clear that it is humanity's use of technology — primarily for generating energy — that is the principal cause of climate change". However, he added, "technology serves a second important purpose — for generating information — which is now overtaking that first task of generating energy, and it is here that our future hope lies." Mr Johnson also outlined ITU's strategy in developing a coherent programme to help tackle the issue.

Energy and ICT

How much assistance ICT can give in reducing greenhouse gas emissions was the subject of a report issued just a few days before the symposium by an MIC "Study group on ICT in response to global warming". Tetsuo Yamakawa, Director-General, International Affairs Department, Telecommunications Bureau, MIC, explained that in Japan, "in 2012, 30 million tons of CO_2 are expected to be emitted in the ICT field, but the use of ICT will produce CO_2 reduction effects of 68 million tons, contributing to a CO_2 emissions reduction of 38 million tons."

"ICT offer a ray of hope and are expected to contribute to addressing the problems of global warming… At the same time, however, it is necessary to consider the impact on global warming from higher electric power consumption caused by the increased use of ICT devices and their advanced functions."

Nikkei Inc.

Satoshi Ninoyu, Japan's Vice-Minister for Internal Affairs

> *"In this symposium, we have generated a rich source of ideas of how the ICT sector can contribute to a greener world, without impacting negatively on global growth and prosperity."*

Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau (TSB)

The potential effects of using ICT were also described by Professor Jun Fujimoto of the University of Tokyo's Research Centre for Advanced Science and Technology. By 2020, he said, using ICT could reduce CO_2 emissions by 2 to 3 per cent, rising to 10 per cent by 2050 — or even higher. Gareth Johnston, Director of Corporate and Government Risk, Climate Risk Pty Ltd (Australia), referred to a study commissioned by Telstra, Australia's incumbent telecommunication operator. It says that, by using ICT, 27 million tonnes of CO_2 emissions could be saved in Australia, or about 5 per cent of the national total.

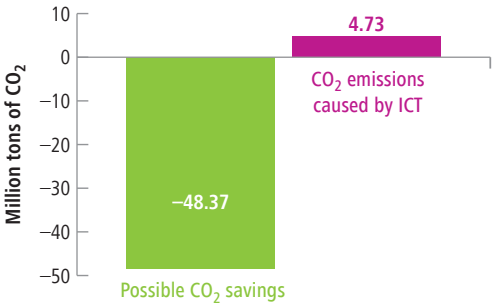
Similar observations were made by Luis Neves, Head of Sustainable Development and Environment, Deutsche Telekom (Germany), and Chairman of the Global e-Sustainability Initiative (GeSI). He showed that, in the period up to 2010, the savings that could be achieved by members of the European Telecommunications Network Operators' Association (ETNO) exceed by tenfold their current CO_2 emissions (see Figure 1). This was echoed by Hans-Otto Scheck, Senior Specialist, Nokia Siemens Networks (Finland), who said that for 15 of the European Union member States, the savings are estimated at 50 million tonnes of CO_2 by 2010, equivalent to 100 terawatt hours of electricity worth some EUR 7 billion.

The role of industry

What can ICT manufacturers and service providers do to reduce their own carbon footprint? A session of the symposium looked at companies that are moving towards a carbon-neutral ICT sector.

Mitsuo Kobayashi, Manager of Corporate Environment Affairs, Asia-Pacific, IBM (Japan), was a member of the team contributing to the original Kyoto Protocol conference in 1997, while working for MIC. He said that between 1990 and 2006, IBM avoided approximately 3 million tonnes of CO_2 emissions through the use of renewable energy and flexible working patterns. Among examples of IBM's work, Mr Kobayashi cited improved efficiency in data centres, which are major consumers of energy.

Figure 1 — Potential influence of ICT on CO_2 emissions by ETNO members up to 2010



Source: Luis Neves, GeSI.


Nikkei Inc.

Participants at the symposium

Data centres are one of the main business fields of Hitachi Ltd, Japan, and the company's vision on this issue was outlined by Tetsuo Takemura, Corporate Officer, Global Business, Information and Telecommunication Systems. He said that Hitachi plans to use a combination of measures to reduce power requirements, including better design and reform in working practices. It should be possible to cut energy consumption by some 22 per cent in the entire life cycle of a product, with almost a one-third reduction at the usage stage.

From Japan's largest telecommunications provider, NTT, Associate Senior Vice President Hiromichi Shinohara described how the group wants to help meet environmental targets through promoting broadband services. Mr Shinohara said that, according to NTT research, a 57-per-cent cut in CO_2 emissions can be achieved by multiple Internet subscribers sharing a fibre-optic cable. A similar saving is made by using such a connection to download music and films, compared with buying manufactured goods that have been transported to a shop.

Fixed and mobile networks are heading for convergence in Japan, said Yutaka Yasuda, Vice President, General Manager of Core Technology Sector, at the Japanese telecommunication operator KDDI. He described the company's energy conservation efforts, which include introduction of high-efficiency mobile base stations, the use of solar power, and development of next-generation battery technology. KDDI is targeting a 16-per-cent reduction in energy usage by 2011 and a limit of 1.5 million tons of greenhouse gas emissions.

Striking a different note, Joanna Gordon, from the IT Industries Team of the World Economic Forum (WEF), Switzerland, argued that although the ICT sector had embraced the challenge of climate change, companies are pulling in different directions. She said that the sector "is spending 98 per cent of its time discussing 2 per cent of the problem" (that is, its own emissions), while missing the opportunity offered by the use of ICT to reduce greenhouse gas emissions in other sectors. Change will come about through financial incentives, Ms Gordon said, adding that WEF had issued a challenge to its partners and governments to establish a list of economically viable approaches, develop a clear message and create incentives for change.

A call to ITU–T

Standardization is an important component of ITU's work relating to climate change, and a number of speakers at the symposium called on the Telecommunication Standardization Sector (ITU–T) to focus efforts in this area. For example, Mr Yamakawa, of MIC, said the report just issued by a ministry study group contained recommendations for areas in which ITU work could be important, including standardization, establishing ways to measure how ICT is reducing greenhouse gas emissions, and in assisting developing countries.

Videoconferencing

Companies can reduce greenhouse gas emissions by holding meetings through videoconferencing. Yoshiki Kawakami, Director of Enterprise Operations, CISCO Japan, said the firm has committed itself to reducing business travel by 10 per cent and to earmarking some USD 20 million for development of tools for remote working. Jeff Hurmuses, President, China and Japan, Tandberg (Norway), described five case studies of the savings that could be achieved. For instance, the Swedish Customs Service holds 60 videoconferences per month, making a monthly saving of 7 tonnes in CO_2 emissions.

Monitoring the climate

The role of ICT in monitoring and modeling climate change was discussed by several speakers at the symposium, including Makoto Kaji, Associate Executive Director at the Japan Aerospace Exploration Agency (JAXA). He highlighted the role that remote Earth observation from satellites can play in assisting with the adaptation process. For example, he said, during the 2008 financial year JAXA will launch the Greenhouse Gases Observing Satellite (GOSAT) which will extend the number of sampling points from the current 256 to some 56 000 worldwide.

London meeting

The second ITU Symposium on ICT and Climate Change took place on 17–18 June 2008 in London, United Kingdom, hosted by BT.

Yuji Inoue, President and CEO, Telecommunication Technology Committee of Japan, explained that Japanese companies have been developing a harmonized method for assessing emissions at a national level, under a Task Force coordinated by the Committee and MIC. However, he said, such a methodology needs to be adopted at the international level. He proposed a series of roles that ITU–T could play in achieving this, through establishing a Focus Group that would bring together standardization and climate change experts, including non-members of ITU.

Already, an "Energy Efficiency Checklist" has been produced to provide for a systematic review of existing and new ITU–T Recommendations, explained David Faulkner, of the United Kingdom operator BT and Rapporteur for ITU–T Study Group 15 (Question 2). The number of broadband users keeps growing, and, on average, transmission capacity tends to double every year or so. This means that power requirements also double. "The challenge, therefore, is to develop standards that break that linear relationship and allow transmission capacity to rise while power consumption falls," Mr Faulkner said.

Adapting to climate change

The science of climate change is made possible by the use of ICT, for instance in remote sensing and in using supercomputers for climate modelling (see articles in the December 2007 and January–February 2008 issues of *ITU News*). In addition to discussing the tools that are available for monitoring, the symposium also looked at ways in which ICT can help communities adapt to climate change.

There are five main phases of adaptation (see Figure 2), said Sangeeta Gupta, Director IT, Energy and Resources Institute, India. She highlighted three areas — agriculture, water and health — in which ICT could have an impact through such methods as integrated natural resource management, monitoring, disaster response and relief systems, and capacity building and education. Ms Gupta described a pilot project of the Institute for developing an information-sharing system to help farming communities in drought-prone areas of northern India.

Figure 2 — Five phases of adapting to climate change

Source: Sangeeta Gupta, Energy and Resources Institute, India.

Focusing on communities high in the Himalayas, Mahabir Pun, of Nepal and Chairman of the Institute for Himalayan Conservation, gave a presentation on "Disaster prevention monitoring in a vulnerable environment". He described a project to develop a wireless sensor network at the Imja-Tse glacial lake — one of more than 20 such lakes in Nepal which, if they overflow as glaciers melt, could endanger many lives. The project is being conducted in cooperation with Keio University, in Tokyo, Japan, and aims to provide early warnings through Wi-Fi-based local area wireless networks in several villages, with a very small aperture terminal (VSAT) satellite connection to the Internet.

Work ahead

The conclusions of the symposium were listed in a Chairman's report produced by Mr Hanazawa. Among these, it notes that in order to promote the use of ICT to combat climate change, there is a need for "the establishment of common approaches at the international level to evaluate CO_2 emissions, and the development of policies to create an appropriate incentive mechanism". It adds that as well as improving awareness among individual ICT users, "there is also a corporate responsibility to achieve a climate-neutral status, in which public-private partnership is essential".

The report states that "ITU should take the initiatives that may be required for energy-saving systems and applications where there is a requirement for standardization". Also, ITU should assist countries, particularly developing ones, and should show how ICT can help in preparing for and withstanding the effects of climate change.

TSB Director Malcolm Johnson said that ITU will study seriously the Chairman's report when considering future strategy. He added that he had taken particular note of the call for action in ITU–T, and he fully supported the meeting's recommendation that an ITU–T Focus Group should take the work forward. He said he would make this proposal to ITU's Telecommunication Standardization Advisory Group (TSAG) at its next meeting in July 2008.

Mr Johnson noted that the symposium had clearly pointed to the need for an internationally agreed, common methodology for measuring the direct and indirect effects of ICT on climate change. "I believe this is important and urgent work. It needs to be carried out in an open, rigorous and multidisciplinary way. It needs to involve not only the whole ITU membership, but also the work of non-members," he said.

Full details of the symposium can be found online at www.itu.int/ITU-T/worksem/climatechange/index.html. Videos of the presentations are available at: www.itu.int/themes/climate/videos/index.html

Using ICT to share information could help communities in, for example, drought-prone areas of India, to adapt to climate change

Industry watch

Broadband news from Europe


Michel Meynsbrughen

Amsterdam gets Europe's first citywide WiMAX broadband

On 17 June 2008, Europe's first citywide commercial wireless broadband network, based on WiMAX 802.16e technology, was launched in Amsterdam, Netherlands. Named "Aerea", it is provided by Worldmax, using a WiMax 16e network from Alcatel-Lucent. At home or outside, users within the city can, for instance, play online games, watch television or download music. Roll-out of the network is due to be completed by the end of 2008. In addition to supplying the WiMAX technology, Alcatel-Lucent will also maintain the network for Worldmax.

Super-fast fibre-to-the-home in the UK

Many broadband Internet connections in the United Kingdom are attached to legacy networks that do not offer the bandwidth needed for very high speeds. However, in the seaside resort of Bournemouth, on the south coast of England, citywide broadband is to be provided that offers super-fast speeds in excess of 100 Mbit/s. In May 2008, H2O Networks announced that, within the next six months, it will begin deploying a fibre-optic network covering more than 88 000 homes, as well as all of the city's business premises and local government facilities. Costs will be kept down, and the work made faster, by installing the fibre-to-the-home (FTTH) network in existing ducts: the city's sewers.

The company says it will provide the network for around GBP 30 million, using its "Fibre Optical Cable Underground Sewer System". Bournemouth will be the first city in the United Kingdom to be entirely provided with FTTH. Expected benefits include a better environment for business, while households will be able to access such services as video streaming and television over the Internet (IPTV). The enhanced bandwidth will also enable better monitoring and management of traffic on the roads, for example, through coordinating roadside cameras.

Over a million German households switch to broadband via cable

Broadband cable connections are now providing digital television and radio broadcasts to more than a million households in the German states of North Rhine-Westphalia and Hesse. This was announced on 16 June 2008 by Unitymedia, a group of companies based in Cologne that is pursuing a "Jetzt Digital" (go digital) initiative together with the states' governments.

Unitymedia says that since the launch of the "Jetzt Digital" campaign in October 2007, almost 40 per cent of households in the area have converted to digital services. The company adds that broadcasters are also promoting the switch to digital by offering an increasing range of programmes and services, including pay-per-view movies. In addition, growing sales of large, flat-screen television sets are driving demand for the better quality of digital broadcasts.

From official sources

Instruments amending the Constitution and the Convention of ITU (Marrakesh, 2002)

The Government of **France** has approved the above-mentioned instruments. The instrument of approval was deposited with the Secretary-General on 23 April 2008. The Government of France confirmed the declarations and reservations made at the time of signature.

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

The Government of **Australia** has ratified the above-mentioned instruments. The instrument of ratification was deposited with the Secretary-General on 17 April 2008.

The Government of the **Slovak Republic** has accepted the above-mentioned instruments. The instrument of acceptance was deposited with the Secretary-General on 11 March 2008.

Regional Agreement for the European Broadcasting Area concerning the use of frequencies by the Broadcasting Service in the VHF and UHF bands (Stockholm, 1961)

The Government of the **Republic of Latvia** has acceded to the above-mentioned Agreement. The instrument of accession was deposited with the Secretary-General on 14 February 2008.

Final Acts of the Regional Radiocommunication Conference for planning of the digital terrestrial broadcasting service in parts of Regions 1 and 3, in the frequency bands 174–230 MHz and 470–862 MHz (RRC-06) (Geneva, 2006)

The Government of the **Republic of Latvia** has acceded to the above-mentioned Final Acts. The instrument of accession was deposited with the Secretary-General on 14 February 2008.

Protocol revising certain parts of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961) (RRC-06 *Rev. ST61*) (Geneva, 2006)

The Government of the **Republic of Latvia** has acceded to the above-mentioned Protocol. The instrument of accession was deposited with the Secretary-General on 14 February 2008.

Change of name

In **France**, the Ministry of Economy, Finance and Employment has changed its name to *Ministry of Economy, Industry and Employment.*

New Sector Members

Radiocommunication Sector

DaTang Telecommunication Technology & Industry Holding Co. Ltd (Beijing, China) and *Turkcell İletişim Hizmetleri A.Ş. (Istanbul, Turkey)* have been admitted to take part in the work of this Sector.

Diary of ITU events

Up-to-date details of forthcoming ITU meetings and conferences can be viewed on the ITU website at

www.itu.int/events/index.asp

From official sources

Telecommunication Standardization Sector

DaTang Telecommunication Technology & Industry Holding Co. Ltd (Beijing, China), Nominet UK (Oxford, United Kingdom), Turkcell İletişim Hizmetleri A.Ş. (Istanbul, Turkey) and *Xilinx Corporation (San Jose, California, United States)* have been admitted to take part in the work of this Sector.

Telecommunication Development Sector

Syriatel Mobile Telecom S.A. (Damascus, Syrian Arab Republic) and *United Telecom of Georgia (UTG) (Tbilisi, Georgia)* have been admitted to take part in the work of this Sector.

New Associates

Telecommunication Standardization Sector

Child Helpline International (Amsterdam, Netherlands) has been admitted to take part in the work of Study Group 2.

GSC Group (Breda, Netherlands) has been admitted to take part in the work of Study Group 3.

Dynastat, Inc. (Austin, Texas, United States) and *HEAD Acoustics GmbH (Herzogenrath, Germany)* have been admitted to take part in the work of Study Group 12.

Comverse (Tel Aviv, Israel) has been admitted to take part in the work of Study Group 13.

Bay Microsystems, Inc. (San Jose, California, United States) and *Iamba Networks (Kfar Saba, Israel)* have been admitted to take part in the work of Study Group 15.

ATEME (Bievres, France) has been admitted to take part in the work of Study Group 16.

New denominations

Telecommunication Standardization Sector

Coding Technologies AB has changed its name to *Dolby Sweden AB (Stockholm, Sweden).*

Essex Corporation has transferred its membership to *Avanex Corporation (Fremont, California, United States).*

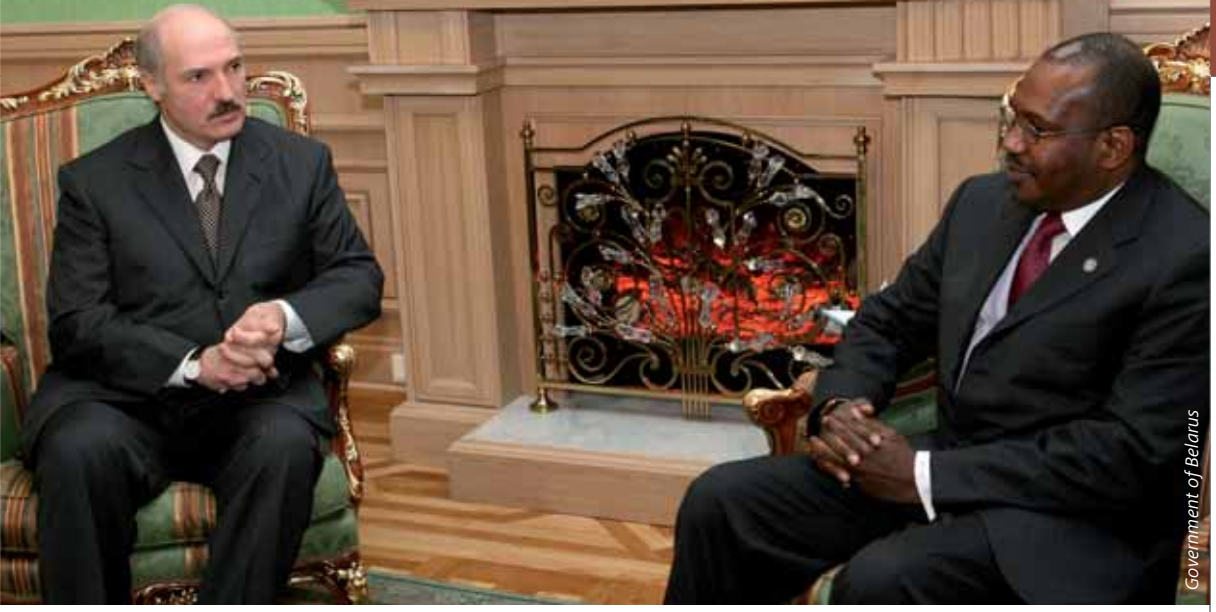
iPhotonics has changed its name to *TXP Corporation (Richardson, Texas, United States).*

Teleglobe Canada ULC has changed its name to *Tata Communications (Canada) (Montreal, Canada).*

Teradyne, Inc. has transferred its Associate membership of ITU–T Study Group 15 to *Tollgrade Communications, Inc. (Cheswick, Pennsylvania, United States).*

Structural change

The *Ministry of Hydraulics, Energy and Information & Communication Technologies* will represent the **Islamic Republic of Mauritania** within ITU, following that country's Decree No. 078 2007/PM of 14 June 2007.



ITU Secretary-General Hamadoun I. Touré with President of Belarus Alexander Lukashenko

Making ICT a leading industry in Belarus

During a visit to the Republic of Belarus in April 2008, ITU Secretary-General Hamadoun I. Touré met President Alexander Lukashenko. They discussed their visions of information and communication technology (ICT) development worldwide and in Belarus, and the role of ITU in this process. Dr Touré offered his backing to the President's proposal to hold a regional ICT conference in the capital, Minsk, in 2009, to be known as the Connect the CIS Summit. "I am glad that your country is working hard to contribute to the global project to bridge the digital divide," Dr Touré said.

Dr Touré also spoke at the opening of the 15th Congress on Telecommunications, Information and Banking Technologies (TIBO-2008), held in Minsk on 21–25 April. He described the city as "incredibly dynamic" and actively responding to the challenges of globalization. "I believe that Minsk, already a guiding light in the development of ICT on a national level, has the potential to carve out a strong position at the international level… making a worthy contribution to world development," he said.

On 21 April, Prime Minister of Belarus Sergei Sidorsky signed a joint statement with Dr Touré through which they agreed to strengthen cooperation in capacity building in the county, through such means as e-learning and the participation of Belorusian experts in international workshops and conferences.

Mr Sidorsky said that the government was working hard to make ICT a leading industry, as it is a priority for the country's social and economic development. The National Academy of Sciences has built a supercomputer, which is used for social and economic projects both in Belarus and in the Russian Federation. A High-Tech Park is operational in Minsk, and, within the next three years, an investment project worth over USD 500 million will be implemented there. Dr Touré visited the High-Tech Park on 22 April and took part in a video conference on ICT with scientists attending an international meeting at Yanka Kupala State University, in the city of Hrodna.

Presse Présidentielle/Burkina Faso

Dr Touré with Burkina Faso's President Blaise Campaoré

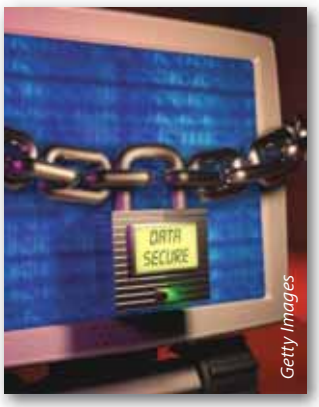
President of Burkina Faso becomes a Patron of the Global Cybersecurity Agenda

On 8 April 2008, ITU Secretary-General Hamadoun I. Touré met Burkina Faso's President Blaise Campaoré in the country's capital, Ougadougou. At the centre of their discussions was the topic of cybersecurity. "Confidence and security in using information and communication technologies (ICT) are fundamental in building an inclusive, secure and global information society," Dr Touré said.

The Secretary-General underlined that 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 that takes into account the role of different stakeholders and existing initiatives". In this context, he added, ITU's Global Cybersecurity Agenda had been launched on 17 May 2007 as a framework for international cooperation.

Dr Touré asked President Campaoré to become a Patron of the Global Cybersecurity Agenda, alongside Dr Óscar Arias Sánchez, President of the Republic of Costa Rica. He thanked President Campaoré for his participation in the Connect Africa Summit in Kigali, Rwanda, in October 2007, and highlighted the progress being made on the commitment 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," Dr Touré stated.

Accepting the role of Patron of the Global Cybersecurity Agenda, President Campaoré promised to contribute personally to ITU's efforts, as well as those of the international community, aimed at maximizing the use of ICT as a lever for socio-economic and cultural development in a safe and peaceful cyberspace. He welcomed the initiatives undertaken by Dr Touré at the helm of ITU, and expressed satisfaction and support for the work of the Union around the world, and in Africa in particular.



Getty Images

Dr Touré with Cameroon's Prime Minister Ephraïm Inoni

Dr Touré with Nigeria's Vice President Goodluck Jonathan

Cameroon's broadband network

During his visit to Cameroon on 3–5 April 2008, Dr Touré held talks with Prime Minister Ephraïm Inoni in the capital, Yaoundé. They discussed the main areas of cooperation between ITU and Cameroon, as well as the government's Intranet project and the optical fibre-based next-generation network that is planned to be completed by 2012 to remedy the shortage of broadband in the country. Dr Touré praised these government efforts to bridge the digital divide. In this context, both men stressed the need to ensure that all African villages are connected by 2012.

Dr Touré also met Maïgari Bello Bouba Minister of State, Minister of Posts and Telecommunications, who described how authorities in Cameroon are playing a driving role in seeking to foster a culture of cybersecurity.

At a press conference, Dr Touré explained that meeting the Millennium Development Goals will be extremely difficult unless ICT are integrated into the task. He stressed that the key to development is partnership. "I am convinced that in the ICT field — which is a profitable one — there are always partners and there will always be financing," said Dr Touré.

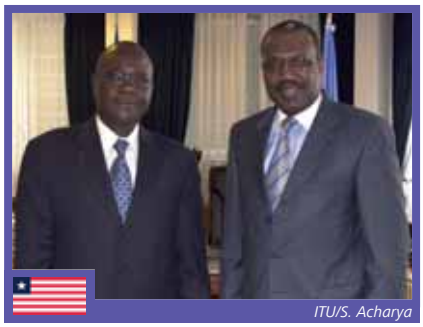
Celebrating progress in Nigeria

The Secretary-General was in Nigeria's capital Abuja on 10–12 April, where he met Vice President Goodluck Jonathan and Minister of Information and Communication John Odey. They discussed, among other things, the Connect Africa initiative and the impressive growth of Nigeria's ICT sector in recent years.

At a visit to the Nigerian Communications Commission (NCC), Dr Touré urged financial institutions in Africa to invest in the "very dynamic" ICT sector. NCC Executive Vice Chairman Ernest Ndukwe described NCC's plans to further boost the industry by training 3000 ICT professionals. This, he said, will augment a sector that is already booming in Nigeria and has attracted about USD 11.5 billion in investment since the award of digital mobile licences in 2001, compared to USD 50 million before. Mr Ndukwe has been central in the progress of ICT in his country. Dr Touré praised this important contribution, which is described in a new book "Ndukwe and Telecom Regulation: A Walk In Tandem" by Nigerian journalist Aaron Ukodia. The Secretary-General attended the book launch in Lagos on 12 April.

Official Visits

During April and May 2008, courtesy visits were made to ITU Secretary-General Hamadoun I. Touré by the following ministers, ambassadors to the United Nations Office and other international organizations in Geneva, and other important guests.



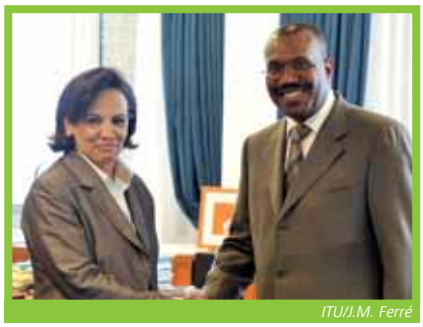
Liberia's Minister of Posts and Telecommunications Jeremiah Sulunteh

Ambassador Laura Thompson of Costa Rica

Argentina's Secretary of State for Communications Carlos Lisandro Salas

Ambassador Shinichi Kitajima of Japan

The Democratic Republic of the Congo's Minister of Posts and Telecommunications Louise Munga Mesozi



Secretary General of the Arab Information and Communication Technology Organization Karima Ghariani

Tunisia's Minister of Technology and Telecommunications Hadj Klay

The African Union's Commissioner for Science and Technology Jean Pierre Ezin

Aguinaldo Jaime, Deputy Minister to the Prime Minister of Angola

Lesotho's Minister of Telecommunications, Science and Technology Mothetjoa Metsing

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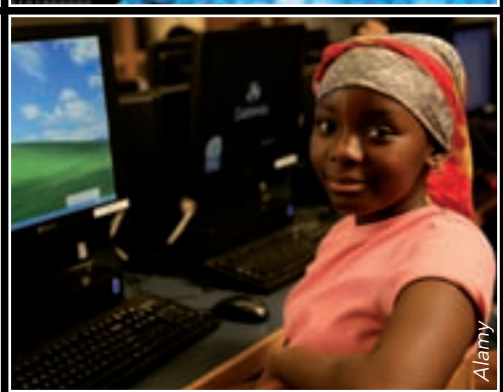
Tells you what's happening in telecommunications

Every time people make a phone call, use a mobile, use e-mail, watch television or access the Internet, they benefit from the work of ITU's mission to connect the world.



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