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ITU NEWS

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Special report on ITU TELECOM WORLD 2009

*The Swiss
telecommunications
market*

Satellite industry outlook

Council 2009



International
Telecommunication
Union



Wake-up call.

Climate change is a serious problem. So at the International Telecommunication Union (ITU), we're looking at serious solutions. For instance, by using information and communication technologies (ICTs) to monitor global climate change. Or by working with other industries to reduce greenhouse gas emissions through the innovative use of ICTs. And, of course, by promoting and adopting a carbon neutral approach within our own industry. We've heard the wake-up call. Through leadership and example, ITU is determined to answer it.

October 2009: A busy month for the ICT world

Dr Hamadoun I. Touré
ITU Secretary-General



October was a very busy month for ITU and for the information and communication technologies (ICT) industry at large. ITU TELECOM WORLD 2009 and this year's session of our governing body, the Council, were held almost back-to-back. This issue of *ITU News* is mainly devoted to those two events.

ITU TELECOM WORLD is the most important global event for the ICT industry, where leaders from the private and public sectors come together to forge partnerships to help connect the world. Throughout ITU TELECOM WORLD 2009, I had the honour and pleasure of meeting participants from government and from all walks of the ICT industry and of welcoming United Nations Secretary-General Ban Ki-moon and heads of other UN agencies.

A tour through the exhibition halls confirmed that rapid innovation continues, despite the economic downturn. I was inspired with confidence that many people around the world are committed to transforming lives through the power of ICT. This message was clear from the prominent political leaders who attended, including Heads of State and Government, industry leaders and heads of international agencies — as well as young people. They all recognize that ICT are vital in addressing every one of the global issues faced today: from the financial crisis to climate change, cybersecurity, emergency communications and creating new jobs.

The success of ITU TELECOM WORLD 2009 was followed by another: the 64th session of the ITU Council. It had a very heavy agenda. But I am pleased

to say that work was completed on schedule, and with many decisions taken on issues of strategic importance to the Union.

Among those key decisions, the Council approved ITU's biennial budget for 2010–2011 in record time. It created a working group to develop Strategic and Financial Plans ahead of the Plenipotentiary Conference in October next year. It adopted a resolution concerning international Internet-related public policy issues, and established a working group to look at ITU's role in creating a safer Internet environment for children. As a father and grandfather, I am particularly pleased by the recognition of that very serious issue.

The Council also approved a resolution highlighting the important role of ICT in mitigating and adapting to the effects of climate change. In line with the resolution, I call on our members to make proposals aimed at having this role recognized in any agreement reached at the United Nations Climate Change Conference in Copenhagen in December 2009.

Just before the Council session began, ITU approved a standard for a universal charger for mobile phones. It enables the same device to be used with all future handsets, regardless of make. As well as dramatically cutting the number of chargers produced, the new standard reduces the energy consumed while charging. ITU is proud to have taken the lead in finding a solution that will not only bring more convenience for all mobile users, but will also contribute to mitigating climate change.

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Special report on ITU TELECOM WORLD 2009

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Dr Hamadoun I. Touré, ITU Secretary-General

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Pictured at the opening of ITU TELECOM WORLD 2009 are (left to right): Moritz Leuenberger, Swiss Federal Councillor and Head of the Federal Department of the Environment, Transport, Energy and Communications; Rwanda's President Paul Kagame; United Nations Secretary-General Ban Ki-moon, and ITU Secretary-General Hamadoun I. Touré

ITU TELECOM WORLD 2009

Reflecting new needs and realities

Political and industry leaders at ITU TELECOM WORLD 2009, held in Geneva on 5–9 October, cited increased collaboration and high-level dialogue as a positive force for the information and communication technologies (ICT) sector. The event attracted over 2250 VIPs, including United Nations Secretary-General Ban Ki-moon, Heads of State and Government, ministers, ambassadors, heads of regulatory agencies, and chief executive officers (CEO) of companies from around the world. They addressed many of the most pressing issues of our time, such as climate change, global economic recovery and cybersecurity.

Opening ceremony

The opening ceremony was addressed by the President of the State Council of the Republic and Canton of Geneva David Hiler, who wished all participants a successful week at ITU TELECOM WORLD 2009; ITU Secretary-General Hamadoun I. Touré; Swiss Federal Councillor and Head of the Federal Department of the Environment, Transport, Energy and Communications, Moritz Leuenberger; United Nations Secretary-General Ban Ki-moon; Rwanda's President Paul Kagame; Chairman and Chief Executive Officer of China Mobile, Wang Jianzhou, and Chief Executive Officer of the STC Group, Saud bin Majed Al Daweesh.

Concluding the ceremony was a special video message from former South African President Nelson Mandela, who said "ICT are the single most powerful tool we have for human progress." He urged participants to support efforts to connect the world and bridge the digital divide.

All photos from pages 4 to 38 are by P. Christin/ITU, D. Keller/ITU, V. Martin/ITU, and F. Rouzioux/ITU unless indicated otherwise.



ITU TELECOM WORLD2009

“ The world has changed since the last time an ITU TELECOM WORLD event took place in Geneva in 2003. Back then, we had just achieved the first billion mobile phone subscriptions. By the end of this year we will have 4.6 billion. Back then, 680 million people used the Internet. Now, the figure is 1.8 billion — and more than half have broadband access. ”

*ITU Secretary-General
Hamadoun I. Touré*



Former South African President Nelson Mandela (in the background), speaking via video link at the opening ceremony, underlined that “information and communication technologies are the single most powerful tool we have for human progress” and urged participants to “support efforts to connect the world and bridge the digital divide”.



State of Geneva

David Hiler

President of the State Council of the Republic and Canton of Geneva

Communicating around the world

Dr Touré described how much the world had changed since the last time an ITU TELECOM WORLD event took place in Geneva in 2003. “Back then, we had just achieved the first billion mobile phone subscriptions. By the end of this year we will have 4.6 billion. Back then, 680 million people used the Internet. Now, the figure is 1.8 billion — and more than half have broadband access,” he said.

Dr Touré called on those present at the event from the developed world to recognize the business opportunities that were on offer. Developing countries were not, he said, coming with “a begging bowl,” but with “proposals which will work for the benefit of all.” He called upon the developing world to “move beyond charity and aid, roll up their sleeves, get to work, and make business happen” and flourish by creating the right environment.

From Switzerland’s government, Moritz Leuenberger welcomed the event’s theme of “Open Networks, Connected Minds”, which he said emphasizes how ICT are integral to freedom of communication. “We must protect freedom of communication like we protect the environment,” he declared.

UN Secretary-General highlights the importance of ICT

UN Secretary-General Ban Ki-moon underlined that ICT are “creating new possibilities for the United Nations to achieve its goals of peace, human rights and development”. He added that ICT are also “a very vital tool for confronting a problem we face as a planet: the threat of climate change.” The UN Secretary-General said that he is pushing all countries to “seal a deal” when negotiators gather for the United Nations Climate Change Conference in Copenhagen, Denmark, on 7–18 December 2009. Business leaders, he said, understand that a comprehensive, fair and effective deal will power growth, helping both the environment and the economy.

Geneva’s “Vieux Grenadiers” at the arrival of dignitaries for the opening ceremony on 5 October 2009



"Already, ICT are being used to cut emissions and help countries adapt to the effects of climate change," Mr Ban noted. He gave an example of how, "for decades, the United Nations has provided seeds and fertilizers to farmers in Africa. Such inputs remain essential. But now we are adding a new kind of tool: text messages." These allow information on weather, for example, to be transmitted swiftly and widely. "Earlier this year, we teamed up with mobile phone companies and other partners to install 5000 new weather stations across Africa. These will monitor the impact of climate change. When there is news, we will be able to transmit it immediately to farmers' mobile phones. We hope to reach as many African farmers as possible — because seven out of ten Africans rely on farming to survive," Mr Ban explained.

Across the world, ICT are being used to raise awareness about climate change. What is more, Mr Ban said, "governments and industries that embrace a strategy of green growth will be environmental champions and economic leaders in the 21st century."

An African perspective

President Paul Kagame of Rwanda expressed similar sentiments. "We witness every day further evidence that environmental protection and economic development are inseparable as we invest in innovative solutions to save our planet," he said. He went on to underline how the powerful theme of ITU TELECOM WORLD 2009 — Open Networks, Connected Minds — had a particular meaning for Africa, even though it is a latecomer in embracing ICT and starting businesses in that sector.

Highlighting developments since ITU's *Connect Africa Summit*, held in Rwanda's capital, Kigali, in October 2007, President Kagame said that there has

been tremendous investment in communications infrastructure in Africa, worth billions of US dollars. The impact has been important in a number of ways.

"Firstly, we have seen a reduction in charges averaging 30 per cent, thereby enabling more people to access communication services and improve their livelihoods. Secondly, these investments have produced returns of over USD 40 billion for the investors. Thirdly, these investments have contributed significantly to the expansion of our nations' tax bases, creation of small and medium-sized enterprises, as well as new jobs," Mr Kagame explained. Finally, he added, the new infrastructure is proving to be a very powerful tool for regional integration, as it links individual countries while also connecting them to international gateways.

In the Rwandan context, there have been significant developments since the *Connect Africa Summit*, the President said, adding that over half-a-billion US dollars have been invested in communication infrastructure — 70 per cent of which was private investment. "These billions of dollars in investment and returns in Africa are neither aid nor loans that lead to national debt traps. This remarkable progress in Africa and in Rwanda is due to an improving business environment, better policies, enhanced public-private partnership and increased efforts in skills development for our workforce," President Kagame stated.

China's progress

Describing how ICT have become an indispensable part of people's lives, China Mobile's CEO Wang Jianzhou said that "in China, from the remote islands to the Himalayas, even ordinary farmers can now use wireless networks to get the information they need in real time, including prices of agricultural products."



Wang Jianzhou
Chief Executive Officer
of China Mobile



Saud bin Majed Al Daweesh

Chief Executive Officer
of the STC Group

“ Our presence at this important event gives us a unique opportunity to exchange views, share experiences and get a first-hand view of key ICT trends. ”

Telecommunication operators in China began rolling out third-generation (3G) networks early this year. This has greatly promoted the development of equipment and created a lot of job opportunities, said Mr Wang.

He explained how the short message service (SMS) continues to make people's lives more convenient. “At present, China Mobile handles over 1.8 billion SMS per day,” Mr Wang said, and reading material is one of the most popular forms of content. “Over 40 million people now subscribe to the Mobile Newspaper service operated by China Mobile,” he commented.

On climate change, Mr Wang noted that ICT could also play its role in energy conservation and the reduction of greenhouse-gas emissions. But the industry must start by examining its own performance. “We used to believe that the telecommunication industry has low energy consumption; however, following the construction of numerous base stations and abundant utilization of servers, power consumption has become one of the major operating costs and needs to be lowered,” Mr Wang said. He explained that China Mobile has launched a “Green Action Plan, which aims to lower energy consumption via technical

measures, including adjusting equipment, adopting natural wind cooling and water cooling, recycling packaging materials, and promoting renewable energy sources such as solar and wind power.”

Mr Wang stressed that greenhouse-gas emissions can also be reduced through the positive impact of interconnected objects and processes in “the Internet of things”. He said that “today, with the expansion of telecommunication networks (especially wireless networks) and the development of sensor technology, we have a more mature environment for promoting the Internet of things.” This, he said, will lead to greater efficiencies in many processes, and thus conservation of energy.

A first-hand view of key trends

Saud Al Daweesh, Group CEO for STC, said: “It is a great pleasure to be part of ITU TELECOM WORLD 2009, especially among such distinguished participants, and to witness this high level of interest in telecommunications and in the IT sector. Our presence at this important event gives us a unique opportunity to exchange views, share experiences and get a first-hand view of key ICT trends. At STC, we are pleased

to share some of our achievements and highlight the international experience we have gained from our fast-growing operations in ten countries around the world.”

“ The short message service (SMS) continues to make people's lives more convenient. At present, China Mobile handles over 1.8 billion SMS per day. ”



StockXpert

Joint Forum opening

The Forum opened with an interactive session featuring Dr Touré; John Chambers, Chairman and Chief Executive Officer of Cisco Systems; Francis Gurry, Director-General of the World Intellectual Property Organization (WIPO); Efthimios Mitropoulos, Secretary-General of the International Maritime Organization (IMO); Francisco Ros Perán, Spain's Secretary of State for Telecommunications and the Information Society, and Hans Vestberg, incoming CEO of Ericsson.

The session was moderated by Reza Jafari, Chairman of the ITU TELECOM Board and Chairman and CEO of e-Development International, who underlined the change to a more interactive format for the meeting, according to the wish of the Secretary-General. Framing the issues for debate, Mr Jafari said that "thanks to our exuberant industry, which is not only contributing to economic recovery but also helping development in general, we are seeing signs from different parts of the world that we are about to come out of the great recession of 2008 and the next step will be, hopefully, sustainable growth that ICT can help and support."

Dr Touré, too, noted that the ICT sector has been very resilient, and that two-thirds of new jobs have been created in the sector over the past five years. "I am confident that this industry is not only outside the financial crisis, but it will lead the world out of the crisis," he said.

His optimism was echoed by John Chambers, who spoke of the power of public-private partnerships, noting in particular the success of Cisco's Networking Academy

"Thanks to our exuberant industry, which is not only contributing to economic recovery but also helping development in general, we are seeing signs from different parts of the world that we are about to come out of the great recession of 2008."

in 165 countries, which had already trained 2.8 million students and has 750 000 currently enrolled. The Academy aims to help bridge the digital divide by extending opportunities to students in developing countries and to those with disabilities. It also empowers women by supporting their professional



John Chambers
Chairman and Chief Executive
Officer of Cisco Systems



Francis Gurry
Director-General of the World
Intellectual Property Organization



Efthimios Mitropoulos
Secretary-General of the
International Maritime
Organization



Reza Jafari
Chairman of the ITU TELECOM
Board and Chairman and CEO of
e-Development International



Hans Vestberg
Incoming CEO of Ericsson



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



“The power of public-private partnerships was highlighted through the success of Cisco’s Networking Academy in 165 countries. It has already trained 2.8 million students and has 750 000 currently enrolled.”

development and encouraging gender equality within the ICT industry.

Mr Chambers said that one reason for his optimism is that groups who have traditionally not worked together are learning to do so. “If you look at the future of a country, public-private partnerships should be based on education, infrastructure, broadband, the ability to catch market transitions and supportive governments. All of these must work together in ways they have not done before,” Mr Chambers said. He cited the example of a public-private partnership in relief operations following the earthquake in China’s Sichuan Province in May 2008. Cisco, he said, provided USD 45 million in a three-year commitment to support reconstruction efforts. A Cisco team was in China for several weeks to learn how the company could best offer long-term rebuilding assistance. The company then signed a memorandum of understanding with the Chinese government on working through public-private partnerships to help develop education and healthcare models for the 21st century. These models have been designed with the potential for replication in countries around the world.

Speaking of Spain’s experience during the financial crisis, Mr Ros Perán said “we have done some things right and some things wrong, like everybody else”. He explained that one mistake

had been putting “too much emphasis on construction”. On the other hand, Spain had implemented strong policies over the last four to five years in favour of research and development, including in the area of ICT. “We no longer have to convince people that technology is important. This fact is now well perceived and rooted in many people’s minds. In addition, many companies are making good progress in developing technology,” Mr Ros Perán observed. He said that the plan for the ICT sector for 2005–2010 will have an accumulated budget of EUR 8 billion in government money allocated to the development of telecommunications, the information society and audiovisual technologies. This puts Spain in a stronger position to move out of the crisis, said Mr Ros Perán.

Hans Vestberg focused on cybersecurity, as the number of ICT users continues to grow. “From a technology point of view we have a very important task, together with all stakeholders — namely governments, the public and private sectors, and

“ In 2008 alone, some 40 billion music files were peer-shared on the Internet illegally, representing a piracy rate of 95 per cent. ”

vendors and service providers — to see that technology is enabled with security. Cooperation is needed in the whole ICT sector to enable that growth. But if we don't take care of the technology and the security of that technology, of course we will not get that growth,” Mr Vestberg stressed. “I see great opportunity for continued work here, but remember one thing: what happened in the last decade is nothing compared to what will happen in the next decade,” he continued. “By then, we will probably have 3 billion broadband connections and 7 billion subscribers on mobile networks, and they will be accessing many applications,” noted Mr Vestberg. He said that all the panellists had a huge responsibility “to see that the platform and the social highway we are building together, actually works from a security point of view”.

Francis Gurry reminded the audience that today, content is as important as the conduits that carry it. ICT provide an unprecedented opportunity for distributing and sharing information, he said, but if that information is free, how can it be an economic generator? This, Mr Gurry said, was the central problem today. “For instance, in 2008, some 40 billion music files were peer-shared on the Internet illegally, representing a piracy rate of 95 per cent,” he noted. “So the real question is how are we going to finance culture and creativity in the 21st century and in the digital environment?” This is an extremely difficult question, because the current model of copyright is under severe stress. “Some of the approaches that are out there for dealing with this problem at the moment rely on affixing liability onto the consumer. I don't think that will work. I don't think we'll solve this by putting teenagers in jail,” said Mr Gurry. Other approaches put liability onto distributors: the Internet service providers (ISP). “We have to bring the ISPs

into the value chain of creative production in order to solve the problem,” he said. A partnership is needed between content providers and those who run the channels.

Mr Mitropoulos began by explaining that IMO is mainly concerned with regulating shipping from the point of view of safety, security and environmental impact. He highlighted IMO's common interest with ITU, underlining that the two organizations had worked together to design and develop the global maritime distress and safety system (GMDSS). He said the system combines terrestrial and satellite communication techniques that enable a ship to send out a call wherever it is in the world, so that assistance can be provided with the minimum delay.

Turning to the global economic downturn, Mr Mitropoulos said that “within this very serious current financial crisis, no sector will be left unscathed, and shipping, of course, will not be an exception.” He said that at the *Maritime Cyprus 2009* conference, hosted by that country on 27–30 September 2009, experts from the market side of the shipping industry had come up with the forecast that, as far as shipping is concerned, the crisis will last for another two, or two-and-a half years. But meanwhile, he added, satellite communications and digital technologies open up possibilities for the shipping industry to improve its record in safety and security. On the issue of climate change, “we are determined to ensure that we play a role in the reduction or limitation of greenhouse-gas emissions from shipping operations. In this respect, the possibilities that open up from what ITU is doing — and what the private sector under the guidance of ITU is doing — must be utilized to the maximum extent, to the benefit of all,” Mr Mitropoulos stated.



Robert Mugabe
President of Zimbabwe



Alhaji Samuel Sam-Sumana
Vice President of Sierra Leone



Pakalitha B. Mosisili
Prime Minister of Lesotho



Mizengo Pinda
Prime Minister of Tanzania



Sheikh Ali Bin Khalifa Al Khalifa
Deputy Prime Minister of Bahrain

Government leaders and industry CEOs in a frank dialogue

Climate change tops the agenda

ITU TELECOM WORLD 2009 was attended by Presidents Paul Kagame of Rwanda and Robert Mugabe of Zimbabwe, Vice President Alhaji Samuel Sam-Sumana of Sierra Leone, Prime Ministers Pakalitha B. Mosisili of Lesotho and Mizengo Pinda of Tanzania, and Deputy Prime Minister Sheikh Ali Bin Khalifa Al Khalifa of Bahrain.

The event was also marked by the strong presence of the United Nations family, represented at the highest level. United Nations Secretary-General Ban Ki-moon took part in many of the week's activities, along with the Director-General of the UN Office at Geneva Sergei Ordzhonikidze; International Maritime Organization Secretary-General Efthimios Mitropoulos; World Intellectual Property Organization Director-General Francis Gurry; World Meteorological Organization Secretary-General Michel Jarraud; and Universal Postal Union Director General Edouard Dayan.

Ban Ki-moon describes the challenge

A round table debate by Heads of State and Government and chief executive officers of major ICT companies noted that every crisis brings with it fresh opportunities — and the current economic crisis is no different. Their discussion covered many of the key issues of our time — the global economy, the digital divide, and cybersecurity — but the main focus was on climate change. The session was moderated by ITU Secretary-General Hamadoun I. Touré, who began by welcoming United Nations Secretary-General.

Mr Ban commended the government leaders for their strong commitment to connecting the world. He also stressed the great potential influence of the private sector. "It is the business leaders who can invest their resources and make technological innovations happen," Mr Ban stated. He said that while all the issues to be discussed by





the round-table meeting are important, he wanted to focus on how the power of ICT could be used in addressing climate change.

"Amidst these multiple crises, this is a very pressing issue. And you are the leaders who have the tools in your hands. I urge you to use your wisdom and your policy priorities to bring ICT tools to help mitigate climate change," Mr Ban told the meeting. "I know that the ICT industry itself is part of the problem, causing 2 to 3 per cent of greenhouse-gas emissions. But at the same time, by using ICT as tools, you can reduce at least 15 per cent of greenhouse-gas emissions in other sectors," Mr Ban observed. He called on the leaders to provide answers and solutions rather than problems. "This is the main purpose of our meeting," he said.

Mr Ban then recalled the one-day summit on climate change that he had convened in New York on 22 September 2009, and which was attended by 101 Heads of State and Government. "I have been working, directly or indirectly, with the

United Nations for more than 30 years. And now, as Secretary-General, I have seen only one case when more than 100 Heads of State have gathered at one

time, at one place," said Mr Ban. He added that the richest nations had sat down together with the most vulnerable countries, not only sharing views and experience, but also demonstrating their political leadership and commitment.

Mr Ban went on to stress that even though the world is going through an economic crisis, it has resources to tackle climate change. "We were able to mobilize between USD 5 trillion to 6 trillion at the London meeting of the G20 countries in stimulus packages, coordinated internationally. The United States alone has mobilized more than USD 1.5 trillion, China, USD 600 billion, and most European countries, more than USD 1 trillion. So we have financial resources and technological capacity. What is largely lacking is the political will," Mr Ban noted.

He called on political leaders and industry CEOs to demonstrate their leadership on the issue of climate

"I know that the ICT industry itself is part of the problem, causing 2 to 3 per cent of greenhouse-gas emissions. But at the same time, by using ICT as tools, you can reduce at least 15 per cent of greenhouse-gas emissions in other sectors."

Alternative energy supplies are crucial. Around the world, an estimated 1.6 billion people live without access to electricity. An additional 1 billion people live in areas with unreliable power supplies.

change. Science has provided irrefutable evidence that climate change is happening much faster than we expected, he said. "Now, it is in the hands of business and political leaders to address these facts," Mr Ban said. "You have the choice," he told participants, as he urged all leaders to look at "climate change as a global issue, requiring global leadership and global priorities".

In the ensuing discussion, the round table meeting was unanimous in recognizing the role of ICT as a key tool in helping to mitigate and adapt to the effects of climate change. Solar power and other sources of renewable energy were seen by many participants as a part of the solution. But it was also clear that it would take a concerted global effort to make such technologies viable and sustainable.

Alternative power

Sierra-Leone's Vice-President Alhaji Samuel Sam-Sumana commented that "as a small country in Africa, and as a continent, we are facing the issue of climate change which was not of our making... In a small global village, we share the same problems. We should share the same benefits. We should all work together towards the enhancement of humanity, in order to share the good tidings of this Universe." He called for mechanisms to be put in place to curb deforestation and for ICT to be used to promote accountability and transparency in governance. He stressed that Africa is willing to cooperate in these efforts, especially through partnerships with the private sector. "We should also make use of

alternative energy, such as hydro-electric, windmills and solar, to reduce effects on the environment," Mr Sam-Sumana stated.

Alternative energy supplies are crucial. Around the world, an estimated 1.6 billion people live without access to electricity. An additional 1 billion people live in areas with unreliable power supplies. In order to expand ICT into areas without regular electricity supplies, mobile networks, for example, have primarily used diesel generators for power. Although oil prices have dropped a little, the continuing cost of diesel fuel to power generators across many networks' base stations is still eating away at profit margins — and polluting the environment.

Robert G. Conway, CEO and Member of the Board of the GSM Association (GSMA) said that in the mobile industry which he represents, "energy is obviously one of the key elements powering our ability to reach out and connect people". But at the same time "we need to reduce that energy consumption, and as part of connecting people, we need to connect those who are off the electrical grid". As mobile network infrastructure is built in increasingly inaccessible regions, operators need a viable alternative to diesel. Mr Conway outlined GSMA's "Green Power for Mobile" programme, which has set the goal of helping the industry use renewable energy sources for new and existing off-grid base stations in developing countries.

Mr Conway shared another vision with the participants on how individuals can control their energy consumption. The mobile phone, for example, should empower consumers to

"As much as we want to think green, the reality is that people need incentives. One of the greatest incentives is cost."



ITU TELECOM Board members

monitor and lower their power consumption in real time, using smart meters and embedded sensors in other machines in their homes and offices. "Imagine a future in which we have a phone in our home, and devices which have chips in them. These radio chips would be connected to the phone and this would tell you the amount of consumption in your own home. As you switch down the lights, you see the reduction of energy consumption and the cost saved," he said. "As much as we want to think green, the reality is that people need incentives. One of the greatest incentives is cost," he added. If people can see immediately how much money they save by reducing energy use, that will make a difference. "That vision is possible and achievable, and with broadband and mobile broadband, it becomes a reality," said Mr Conway.

Sunil Bharti Mittal, Chairman and Group CEO of Bharti Enterprises, India, said that India is beginning to bridge the digital divide which was "staring them in the face" only a few years ago. "We are now connecting 10 to 12 million people every month, with more than half of them in rural areas and this growth is set to continue," Mr Mittal told participants. He also underlined that this growth is putting severe strains on energy resources. India has 450 million mobile

phone subscribers and is looking to reach 1 billion in the next four to five years. "We need to look at leading-edge technologies. We have to make sure these networks are powered through technologies that will not harm our environment. We are building towers where there is no electricity and using generators," Mr Mittal explained. And, he added, "we believe that through ITU, policy-makers and Heads of State, we can together find ways and means of using technologies that are outside our industries and available to us. The problem is that countries that have money have no sun, and those with sun have no money. So we need to combine solar energy with technologies and money from the developed world." Despite these challenges, "we as an industry will deliver on the United Nations Millennium Development Goals by 2012," concluded Mr Mittal.

Indian telecommunication equipment manufacturer Vihaan Networks Limited (or VNL) unveiled its environment friendly solar-powered mobile system. Providing mobile coverage to remote and rural parts of the world is often hindered by high installation and operating costs. In addition, the specialized knowledge needed to set up and run a base station is not widely available. As a result, few operators have



gone into these communities. VNL has helped overcome this obstacle with a low-power mobile base station that requires little capital expense and has almost no operating costs.

According to VNL's founder and Chairman Rajiv Mehrotra, the solar-powered network is designed to help mobile operators connect the unconnected in rural and remote areas where average revenue per user (ARPU) is less than USD 2 dollars, and still be financially viable. "Everyone is looking for solutions that create zero emissions. Today, many companies in India have designed end-to-end solar solutions for mobile. These systems are now widely available. Soon, India will have more solar-powered systems than the rest of the world put together," Mr Mehrotra added.

Prime Minister Mizengo Pinda of Tanzania underlined the significance of holding a round table of government representatives and CEOs. "We feel it is a good opportunity, because together we can try to look at the factors that are affecting climate change," he said. "In developing countries, in almost all areas where you have ICT facilities, the challenge has always been power," the Prime Minister added. "We face acute shortages of power... so, invariably, all our major companies are forced to use standby diesel generators, which consume a lot of oil, produce a lot of emissions, and keep on hammering away on the environment and hampering our efforts to tackle climate change. We must develop a good model to help us out of this situation," he stressed. Welcoming the statement by Mr Conway that there are opportunities to move ahead, Mr Pinda said "we should look at companies not only as profit-making, but also as key tools to fight climate change". He also welcomed an idea put forward by Dr Touré that e-books would be an important way of reducing the use of paper. "From primary to secondary schools to universities, it is books, books, books! By preserving the trees we are cutting now, it will be part of our contribution to a green world," Mr Pinda said.

"In developing countries, in almost all areas where you have ICT facilities, the challenge has always been power. We face acute shortages of power... so, invariably, all our major companies are forced to use standby diesel generators, which consume a lot of oil, produce a lot of emissions, and keep on hammering away on the environment and hampering our efforts to tackle climate change."

Managing e-waste

Colombia's Minister of Information and Communications Technology María del Rosario Guerra de la Espriella called for better management of e-waste, especially discarded computers and mobile phones. She underlined that these devices are increasing in number, especially as "we have been promoting (and keep promoting) the use of personal computers in schools". Ms Guerra de la Espriella called for more action to deal with e-waste, which she said had grown to 20 to 50 million tonnes globally. Colombia has a national e-waste centre, which has been recognized in Latin America. "But we need to work with industry on this issue," she said. On the issue of cybersecurity Ms Guerra de la Espriella called on the United Nations to be more forceful in bringing about a safer Internet, particularly for children and young people, who are constantly threatened by pornography. "ITU can help us in these two areas," the minister concluded.

Lesotho's Minister of Communications, Science and Technology Mothetjoa Metsing shared the view expressed by Colombia on disposal of e-waste, which he stressed is becoming a real challenge. He added that, in an effort to connect everyone, many mobile phone companies are competing, resulting in the proliferation of transmission towers. Mr Metsing called for "policy intervention" which would require that "if you have a tower for one company, there must be agreement on co-sharing of that facility" by other companies.

More action is needed to deal with e-waste, which has grown to 20 to 50 million tonnes globally.

Colombia's Minister of Information and Communications Technology María del Rosario Guerra de la Espriella called for better management of e-waste



Human resources

Michael R. Gardner, Chairman of the United States Telecommunications Training Institute (USTTI), highlighted the importance of human resources development, particularly in developing countries. He said that USTTI was proud to have trained over 8000 graduates from 167 countries through public-private partnerships. But he added that a major effort should be "jump-started" over the next three to five years "so that the poorest developing country has parity in ICT development with other countries." Mr Gardner also pointed to the opportunity to harness the energy of young people. He underlined the need to find additional ways for the private sector to offer training within and outside their own countries, because "never before have the demographics been more exciting, in terms of the young women

and men who are energized to join the ICT revolution," he said.

The African Union's Commissioner for Human Resources, Science and Technology Jean-Pierre Ezin stressed the importance of capacity building, in which he said Africa is lagging far behind the rest of the world. "We have the lowest number of scientists and engineers on the planet. So there is lot of work to be done," said Mr Ezin. "There are important efforts to be made to train young people, create opportunities and adapt our structures. Every year, 20 000 professionals (students with bachelors or masters degrees) leave our continent to find better studying conditions. If we want to find solutions to the ICT problem, we should take this into account," he commented.

Solutions for developing countries

Mozambique's Minister of Science and Technology Venâncio Massingue noted how his country is exposed to the dangerous effects of climate change. He called for cooperation to establish early warning systems for the region to prepare for natural disasters. He said this could be achieved, for example, with the help of industry through the launch of low-Earth orbit satellites. Mr Massingue also welcomed the news about the possibilities of solar energy — but these are not yet evident in Mozambique. "When I look around in my country, I cannot find these solar energy solutions. The use of solar could really change our hospitals, clinics and schools," the minister said. Meanwhile, though, ICT is expanding in Mozambique. Mr Massingue spoke of a computer assembly plant launched recently as part of a joint venture between Sahara Computers of India and Mozambique Information and Communication Technology (MICTI), a semi-governmental organization.

Ghana's Minister of Communications Haruna Iddrisu called for a commitment to use equipment with low energy consumption, while emphasizing that "we must not lose sight of the electromagnetic effects of ICT on human beings; for example mobile phones". Mr Iddrisu also called for a greater focus on how operators and governments could cooperate in using ICT to meet the United Nations Millennium Development Goals. He stressed the need for solutions in e-health (notably in the areas of maternal health and child mortality) and e-education. Mr Iddrisu then cited Ghana's Investment Fund for Telecommunications as an example of best practice. He said the fund supports provision of telecommunication facilities to underserved and unserved areas. Licensed operators contribute 1 per cent of their net revenues to the fund.

*Mozambique's Minister of Science and Technology
Venâncio Massingue*



Fiji's Minister of Public Enterprises, Tourism and Communications Aiyaz Sayed-Khaiyum stressed that the issue of economies of scale had to be addressed if Pacific island States are to meet the United Nations Millennium Development Goals. He noted that the companies represented at the round-table meeting operate in mass-market conditions. However, "the population of Pacific island countries averages between 200 000 and 300 000 people per nation. So it is an entirely different dynamic." Mr Sayed-Khaiyum cited a recent example in Fiji, where, he said, a leading mobile phone manufacturer had refused to serve the island State, due to its small size. On the issue of climate change, Mr Sayed-Khaiyum warned that some island States could soon disappear from the face of the Earth due to rising sea levels. He challenged industry leaders to bring much-needed technology to these countries.

Speaking of the recent disaster, Samoa's Minister of Communications and Information Technology Safuneitu'uga Pa'aga Neri stated that even though her country was going through some very difficult times, recovering from the shock and damage caused by a devastating tsunami on 29 September 2009, "I thought that I needed to be here at this time to convey my message on the importance of having efficient and reliable alert and warning systems in place to help save lives, and to request our partners for some assistance in this area".

She stressed that "Samoa, being a small island developing State located in the middle of the Pacific Ocean, we truly believe in the importance of having a good telecommunication and ICT infrastructure and network, to assist the nation at times of natural disasters and other emergencies". She commented that least developed countries, and most developing countries, are still far behind in terms of connectivity

and broadband access. "Lack of broadband infrastructure and high connectivity costs are the main challenges we still face. With limited resources available, we continue to rely on our partners and assistance to help us put in place the appropriate and relevant infrastructure," the minister said.

International efforts

Francis Gurry, the Director-General of the World Intellectual Property Organization (WIPO) underlined that the answer to climate change is, ultimately, technology — and that ICT provide an enabling platform. "At WIPO, we try to provide an open innovation platform, which can signal the availability of the various technologies that can be of assistance to meet the challenges of climate change," he said.

The Universal Postal Union (UPU) is also committed to green growth, said its Director General

Samoa's Minister of Communications and Information Technology Safuneitu'uga Pa'aga Neri



Edouard Dayan. Worldwide, the postal sector delivers more than 430 billion letters and six billion parcels each year. In taking up the challenge of green growth, businesses can rethink their logistics chains and plan long-term measures to save energy. "We are measuring levels of greenhouse-gas emissions, in order to contribute to efforts to reduce them," Mr Dayan said. He went on to outline UPU's plan to help build a global physical, electronic and financial transmission network. "This should contribute to business development, and solve, for instance the problem of migrant workers sending money to their families," Mr Dayan explained.

He added that one of the key issues was the question of standards, whose adoption allows economies of scale and a cut in the cost of ICT. An example is

UPU's Global Monitoring System project that was launched in August 2009. It involves the insertion of radio-frequency identification (RFID) tags into letters to measure the time taken to deliver mail between the 21 countries participating in the project. Ten years ago, the cost per transponder was considered too high at USD 23. "With international standards, we are now able to offer access to that technology at the much more affordable price of USD 0.30," Mr Dayan stated.

Ekwoe Spio-Garbrah, Chief Executive Officer of the Commonwealth Telecommunications Organisation (CTO), stressed the crucial role of the World Meteorological Organization (WMO) in combating climate change. Speaking of the tsunami that hit Samoa, American Samoa and Tonga on 29 September 2009, Mr Spio-Garbrah outlined the importance of the *Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations*. On the basis of this Convention, CTO, ITU and their partners are organizing workshops on the role of ICT in managing disasters. This is an issue that affects all countries, Mr Spio-Garbrah stressed, adding that "CTO is also involved in capacity building for disaster management".

Natural disasters have a considerable impact on lives, livelihoods and property. Just before the opening of ITU TELECOM WORLD 2009, the world witnessed, once again, a series of these deadly events. In late September 2009, typhoon Ketsana killed nearly 400 people, causing severe flooding in parts of the Philippines, Viet Nam and Cambodia. The tsunami in the South Pacific on 29 September resulted in nearly 200 deaths and significant damage. In Italy, heavy rainfall in Sicily triggered landslides that killed 25 people in early October. WMO is working with its

From left to right: Edouard Dayan, Director General of the Universal Postal Union and Michel Jarraud, Secretary-General of the World Meteorological Organization



members and international partners to integrate early warning systems into countries' emergency plans, and help them learn from best practice.

Speaking at the session "GREEN@ICT: A digital new deal", WMO Secretary-General Michel Jarraud urged business leaders to talk to each other and to make the best possible use of scientific information

available on climate change. Recalling the report of the Intergovernmental Panel on Climate Change and the fact that this Panel was a co-winner of the 2007 Nobel Peace Prize, Mr Jarraud stressed that there is no longer any place for any doubt. "Climate Change is with us today. If we do nothing about it, it is the future of this planet which is at stake."

Council of Ministers discuss the future of the Internet

At one session that brought together more than 50 ministers, the discussion was on the future of the Internet, with a focus on broadband and convergence, Internet public policy, and new and emerging cyberthreats.

The Council of Ministers was addressed by the following countries: Bangladesh, Bhutan, Cameroon, the Democratic Republic of the Congo, Egypt, Fiji, India, Indonesia, Lebanon, Lesotho, Malaysia, Mauritius, Mozambique, the Philippines, Samoa, Saudi Arabia, Serbia, Sierra Leone, Sudan, Sri Lanka, Swaziland, Tanzania, Tunisia, Viet Nam and Zimbabwe.

Over the last two decades, the Internet has grown dramatically. According to ITU statistics, there are some 1.8 billion Internet users worldwide, or around a quarter of the world's population, with the largest share in the Asia-Pacific region. Meanwhile, broadband and convergence are blurring the boundaries between infrastructure, applications and content. This, several countries said, is posing new policy and regulatory challenges. The broadband plans and projects highlighted during the meeting highlight the importance of this technology for socio-economic development.

On Internet governance, Saudi Arabia stressed the need to get to "the heart of the matter". ITU has made many services available around the world through the management of the radio-frequency spectrum, and so "ITU should be more than capable of carrying out Internet governance," Saudi Arabia stated. Egypt invited countries to take part in the fourth Internet Governance Forum in Sharm El Sheikh in November 2009.

The crux of today's Internet governance debate is resource management, the management of top-level domains and allocation of addresses. Developing countries feel they are under represented in current governance mechanisms, and that international governance frameworks should reflect new market realities.

Meanwhile, cybercriminals are exploiting online vulnerabilities and threatening the reliability, stability and security of the Internet. In some countries, new legislation on personal data protection is ready to be presented to national parliaments. The aim is to provide further assurance in the collection, processing and storage of personal data transmitted over electronic networks. In others, laws on cybersecurity are being finalized in line with national ICT policies.



Council of Ministers in session

Countries at the meeting were unanimous in saying that cybercrime is “a global threat that requires global attention and a global solution”. Indonesia emphasized that cybersecurity has become a prime issue for almost every ITU Member State, so this must be made a first priority in future ITU programmes.

Cybercrime is often borderless and creates problems of jurisdiction. Underlining this point, Lesotho called for an international instrument and for “the leadership of ITU to take on board this issue on our behalf and come up with such an instrument, which will really help us in all our countries”. Cameroon, followed by several other countries, noted the importance of the European Convention on Cybercrime, adopted in Budapest, Hungary in 2001. They also called for new global measures. As Swaziland put it, “we would like ITU to champion the enactment of a Convention for International Cooperation in prosecuting cybercriminals — there should be no place for them to hide”.

Addressing the Council of Ministers, President Robert Mugabe of Zimbabwe described the status of ICT in his country — revealing that 600 secondary schools had benefited from a national computerization programme. He also called for investment in the

country’s ICT sector. “With a teledensity of less than 15 per cent, and Internet penetration rates of less than 10 per cent, Zimbabwe is certainly an emerging market and therefore ripe for investment,” Mr Mugabe said. “In this regard, my government welcomes private-sector investment in Zimbabwe’s ICT sector, taking advantage of our central location in the sub-region and our high literacy rate of over 97 per cent, which aids receptivity to these technologies.”

Zimbabwe’s mobile phone sector has grown from one million subscribers at the beginning of 2009 to 2.5 million at present, he said, and the figure is expected to reach four million subscribers by January 2010. “We are also developing a national communications backbone with cross-border connections into neighbouring countries, namely Mozambique, South Africa, Zambia and Botswana. Based on these developments, it is expected that telecommunication penetration will increase and high-speed broadband connectivity will be realized before the 2010 Football World Cup in South Africa,” President Mugabe said.



Bhutan's Minister
for Information and
Communications
Lyonpo Nandalal Rai



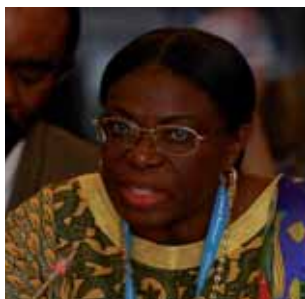
Burkina Faso's Minister of
Posts and Information and
Communication Technology
Noël Kaboré



Burundi's Minister of Transport,
Posts and Telecommunications
Philippe Njoni



Cameroon's Minister of Posts
and Telecommunications
Jean-Pierre Biyiti Bi Essam



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



Fiji's Minister of Public
Enterprises, Tourism and
Communications
Aiyaz Sayed-Khaiyum



Jordan's Minister
of Information and
Communications Technology
Basem Rousan



Lebanon's then Minister of
Telecommunications
Gebran Bassil



Malaysia's Deputy Minister
for Information,
Communications and Culture
Dato' Joseph Salang



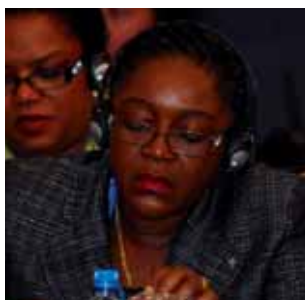
Philippines's Secretary
of the Commission
on Information and
Communication Technology
Ray Anthony Roxas-Chua III



Saudi Arabia's Minister
of Communications and
Information Technology
Mohamed Jamil A. Mulla



Serbia's Minister of
Telecommunications and
Information Society
Jasna Matić



Suriname's Minister of
Transport, Communication
and Tourism
Richel Apinsa



Swaziland's Minister
of Information and
Communication Technology
Nelisiwe J. Shongwe



Tunisia's Minister of
Communication Technologies
Haj Klai



Senator Stephen Conroy

Australia's Minister of Broadband,
Communications and the Digital
Economy



Tarek Kamel

Egypt's Minister of
Communications and Information
Technology



Lawrence E. Strickling

United States Assistant
Secretary for Communications
and Information, National
Telecommunications and
Information Administration, US
Department of Commerce

Open summit: ICT for economic growth

Highlights from the "Open summit on ICT for economic growth" focused on some of the major broadband stimulus plans under way in a number of countries to stimulate long-term economic growth and create new jobs. Panellists included Australia's Minister of Broadband, Communications and the Digital Economy Senator Stephen Conroy; Egypt's Minister of Communications and Information Technology Tarek Kamel; United States Assistant Secretary for Communications and Information, National Telecommunications and Information Administration (NTIA), US Department of Commerce, Lawrence E. Strickling; Chairman and Group CEO of Bharti Enterprises, India, Sunil Bharti Mittal; CEO of Nokia Siemens Networks, Finland, Rajeev Suri; Member of the Board and Vice Chairman of Fujitsu Ltd, Japan, Chiaki Ito; and Vice President, Advanced Technology for Research in Motion Limited, Canada, Mark Pecen. The session was moderated by Adrian Finighan, CNN anchor and correspondent in the United Kingdom.

The American Recovery and Reinvestment Act provides a total of USD 7.2 billion to fund projects that will expand access to, and adoption of, broadband services. Mr Strickling explained that NTIA will use USD 4.7 billion of this funding for grants to deploy broadband infrastructure in unserved and underserved areas in the United States, expand public computer centre capacity, and encourage sustainable adoption of broadband services.

ITU predicts 4.6 billion mobile subscriptions by the end of 2009

ITU's latest statistics, issued at ITU TELECOM WORLD 2009, reveal rapid growth in ICT in many world regions, with mobile technology acting as a key driver. Mobile subscriptions are expected to reach 4.6 billion by the end of 2009, and mobile broadband subscriptions to top 600 million, having overtaken fixed broadband subscriptions in 2008. "The World in 2009: ICT facts and figures" is a new ITU publication offering comprehensive data, forecasts and analysis of the global ICT market. It shows that mobile technologies have a particularly important impact in developing countries, with several of them launching IMT2000/3G networks and services.

Australia's "super-fast National Broadband Network" announced by the government in April 2009 is expected to support 25 000 jobs every year, on average, over the life of the project (an estimated eight years). Describing the project as a public-private partnership, Senator Stephen Conroy said that it will cost AUS 43 billion and will connect 90 per cent of all Australian homes, schools and workplaces with broadband services at speeds of up to 100 Mbit/s. It will use next-generation technologies such as optical fibre, but also rely on advanced wireless and satellite technologies for remote parts of rural Australia.

Egypt's Minister of Communications and Information Technology Tarek Kamel noted that the Middle East and Africa have been least affected by the economic downturn, with many countries still recording double-digit growth. He said that the service industry was a good opportunity within ICT, and revealed that Egypt plans to increase its presence as a centre of excellence and a destination for the outsourcing and "offshoring" of services, in which business processes are transferred from one country to another. He said that Egypt is already a favourite destination for this work, "because we have all the elements for success: good geographic location — situated at the centre of major cable routes — excellent multilingual skills, government incentives, business park facilities and a robust infrastructure among them."



Rajeev Suri
CEO of Nokia Siemens Networks,
Finland



Chiaki Ito
Member of the Board and Vice
Chairman of Fujitsu Ltd, Japan



Mark Pecan
Vice President, Advanced
Technology for Research in
Motion Limited, Canada



Adrian Finighan
CNN, United Kingdom



From left to right: Christian Salbaing, Deputy Chairman and Managing Director, European Communications, Hutchison Europe Telecommunications; Sunil Bharti Mittal, Chairman and Group CEO, Bharti Enterprises; Robert Conway, CEO and Member of the Board of the GSM Association; Jon Fredrik Baksaas, President and CEO of the Telenor Group; Naguib Sawiris, Chairman and CEO of Orascom Telecom Holding Egypt; and Tom Phillips, Chief Government and Regulatory Affairs Officer, Public Policy, GSM Association

Snapshot of the VIP programme

■ Looking at the benefits of mobile broadband

A VIP session on “Benefits of Mobile Broadband for the Economy and Society”, looked at how the mobile industry has responded to the global economic downturn, in comparison with other sectors. Participants and panellists also considered how it might contribute as new technologies are adopted around the world. “The mobile industry will lead us out of the financial crisis,” said Dr Touré upon opening the session, which was moderated by Tom Phillips, Chief Government and Regulatory Affairs Officer, Public Policy, GSM Association (GSMA), United Kingdom.

Today, broadband connections to the Internet via mobile phones and other devices — mobile broadband — can be used for many data applications, from e-mail to multimedia streaming and file downloads. Mobile broadband has been a bright spot for the sector, especially in mature markets where the recession (and regulation) has had an impact on revenues for voice and short-message service (SMS) transmissions. Over the last 18 months there has been a huge rise in the adoption of mobile broadband globally, with

customers using netbooks, dongles attached to laptops, or smartphones.

Several technologies are competing to deliver commercial mobile broadband services. One of them is high-speed packet access (HSPA). According to GSMA, there are now 321 HSPA networks in 120 countries worldwide, and 285 of these networks are commercially live, supporting more than 167.5 million connections. GSMA says that there are now more than 9 million new HSPA connections being added globally every month, compared to 5.5 million a year ago. Europe and the Asia-Pacific region each account for an estimated 3 million of these new connections, with North America contributing 1.3 million.

During the panel discussion, industry leaders stressed that competition, not regulation, should drive mobile broadband development. Robert Conway, CEO and Member of the Board of the GSM Association, recalled a letter which key players in the mobile industry had addressed to the leaders of the G20 countries meeting in London in April 2009. He said the letter had asked the G20 governments to meet the industry’s requests for less intrusive regulatory regimes, and for the additional radio-frequency

spectrum needed to extend the reach of mobile broadband services. Mr Conway said the mobile industry is forecast to invest USD 800 billion over the next five years, of which USD 550 billion will be spent on mobile broadband with the aim of connecting 2.4 billion people to the Internet.

Participants in the session underlined that access to mobile broadband has the ability to improve people's lives, create jobs, and generate tax revenues. India and China are seen as huge engines of growth in this market. "The fact is, when we bring a radio signal to a remote part of the country (India), people who have no address nevertheless have a mobile phone. And income levels go up as people start using mobile phones," commented Sunil Bharti Mittal, Chairman and Group CEO, Bharti Enterprises, India.

When you ask anyone today, what is the last thing they would give up, the answer is "my mobile phone", said Christian Salbaing, Deputy Chairman and Managing Director, European Communications, Hutchison Europe Telecommunications, Sarl, UK. As technology evolves, we should get a reality check by listening to young people, he added. They live in a virtual community with all their friends, and their needs have to be taken into account.

For Jon Fredrik Baksaas, President and CEO of the Telenor Group, Norway, "innovation happens when

there is not too much regulation". Norway is one of the world's most advanced countries in ICT usage, and the Telenor Group's footprint covers more than 1.8 billion people in 13 countries in Europe and Asia. A new study by Telenor demonstrates how Internet access can boost economic growth and social welfare. According to the study,

a 10-percentage-point increase in Internet penetration could increase gross domestic product (GDP) by 1 to 2.5 per cent, increase new business activities by approximately 1 per cent, and boost total government revenues in some countries by as much as 8 to 9 per cent. Mobile broadband will boost GDP growth in countries where it is deployed,

commented Mr Baksaas. Expressing a similar view, Naguib Sawiris, Chairman and CEO of Orascom Telecom Holding Egypt, explained that "in Egypt, we grow 1–2 per cent every year in mobile broadband. By doing this, we are increasing GDP by 1–2 per cent every year".

In general, the panellists concluded that, in order for operators to deliver feature-rich mobile broadband connectivity, it is crucial that they innovate in a defined and stable environment, confident about securing the necessary spectrum. Effective management of spectrum across all technologies, and in every region of the world, is vital for the long-term growth of the mobile industry.

The mobile industry is forecast to invest USD 800 billion over the next five years, of which USD 550 billion will be spent on mobile broadband with the aim of connecting 2.4 billion people to the Internet.



Teppo Paavola

Vice-President and General
Manager of Mobile Financial
Services, Nokia, United States



Samuel Poghiso

Kenya's Minister of Information
and Communications

■ Cash goes mobile

Another VIP session examined how to create the environment needed for mobile financial services through cooperation among regulators, financial institutions and mobile network operators. The speakers were Teppo Paavola, Vice-President and General Manager of Mobile Financial Services, Nokia, United States, and Kenya's Minister of Information and Communications Samuel Poghiso.

Nokia believes that with more than 4 billion mobile phone users worldwide but only 1.6 billion bank accounts, global demand for access to financial services presents a strong opportunity to combine mobile devices with simple but powerful financial services. The company plans to roll out its "Nokia Money" service in some of its markets in early 2010. The service has been designed to be as simple and convenient as making a voice call or sending an SMS.

For many consumers, especially in emerging economies, this will be the first time they have had any access to such financial services. Rural consumers, said Mr Paavola, will particularly benefit from money transfers and, for urban consumers used to on-line services, they will be able to pay utility bills, buy train and movie tickets, or top up their SIM cards, all through their mobile phones. The service is expected to be available across different operator networks and on virtually any mobile phone. Mr Paavola underlined that for the service to succeed, cooperation will be needed between regulators, banks, consumers and mobile device vendors, as well as international interoperability.

The session also looked at Kenya's success story in bringing mobile financial services to millions of its unbanked population. Kenyan mobile phone service provider, Safaricom (an affiliate of Vodafone), has become well known for its money transfer service, M-PESA. It offers a simple way for people to safely transfer and carry money using their mobile phones, and is a necessity for Kenyans who have no other access to banking facilities. Launched by Safaricom in March 2007, M-PESA now has close to 7 million customers.

The significance of mobile banking to the Kenyan economy is better understood by looking at the value of M-PESA transactions compared with commercial bank deposits and the country's GDP. According to statistics from the Central Bank of Kenya, in July 2007, the value of M-PESA transactions was about 0.17 per cent of commercial bank deposits. In July 2009, that value had grown to 4.36 per cent. Kenya's annual GDP in 2008 was estimated at USD 30.24 billion, but in the month of July 2009 alone, M-PESA transactions accounted for USD 535 million. "M-PESA has transformed life in rural Kenya and revolutionized national payment systems" said Mr Poghiso.

This success demonstrates the demand for easily accessible, secure cash payment services in emerging markets. The Kenya Communication Act that was implemented by the Communication Commission of Kenya enabled reform of the telecommunication sector, providing a base for successful mobile banking as a value-added service, explained the minister. Dialogue between the private sector and government authorities has contributed to the continuing success of M-PESA, he said. Providers receive the necessary support from government, which also evaluates possible repercussions of new products to the integrity of the financial system.

Kenya's policy has been to allow innovations in mobile banking, but under careful monitoring and review. The Central Bank of Kenya Act was amended in 2003. This enhanced the bank's mandate to formulate and implement policies to promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems. At the institutional level, the bank has various strategies to enhance its oversight capacity and keep abreast of technological innovations in financial services. This has made it possible to increase access to financial services, but at the same time maintain stability.

■ Meet a leader

The "Meet a leader" session of the VIP programme featured Mike Lazaridis, President and co-CEO of Research In Motion (RIM), the maker of BlackBerry smartphones. Opening remarks were made by Helen McDonald, Assistant Deputy Minister at Canada's Department of Industry, Spectrum, Information Technologies and Telecommunications. The session was moderated by Patricia Szarvas of the television broadcaster CNBC, United Kingdom. Mr Lazaridis highlighted a number of issues at the core of the wireless industry's success. From the importance of security as a fundamental foundation for the wireless industry, to the role of technology in e-health, he drew on his many years of experience in the industry.

Mr Lazaridis is known in the global wireless community as a visionary and exceptionally talented engineer. A Canadian whose hometown is Windsor, Ontario, he founded RIM while a student at university. As President and co-CEO, he is responsible for research and development, product development, and manufacturing. He is also a passionate advocate of education and scientific research, and personally invested USD 150 million in the Perimeter Institute for Theoretical Physics, which opened in 2001 in Waterloo, Ontario. He has also helped generate more than USD 100 million in additional private and public-sector funding for the institute, a centre of scientific excellence that is now associated with over 30 Canadian universities and a growing number of others worldwide.



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Mike Lazaridis
President and co-CEO of Research
In Motion



Patricia Szarvas
CNBC, United Kingdom



Young people from more than 145 countries took part in the Youth Forum

The Youth Forum Declaration

Educate people, unite countries and connect the world

Around 300 young people from 145 countries took part in the Youth Forum at ITU TELECOM WORLD 2009. Among the topics they considered were innovative technologies and services, policy and regulation, and how schools can be used as local hubs in the information society. The opening ceremony — with the theme “young voices, new visions” — featured speeches by ITU Secretary-General Hamadoun I. Touré, Geneva State Chancellor Robert Hensler, and Director of ITU’s Telecommunication Development Bureau Sami Al Basheer Al Morshid. The Youth Forum was sponsored by ITU, the State of Geneva, Cisco, the Internet Society (ISOC) and Nokia Siemens.

With more than three billion people under the age of 25 around the world, all speakers reminded the youth fellows that they are tomorrow’s leaders of the ICT industry. “We are all aware that it is our youth who will shape the future of the information society,” said Dr Touré. Lu Zhao, a Youth Forum alumnus from the ITU TELECOM ASIA 2002 event in Hong Kong, China,

is an example of how young people are embracing the ICT world. Ms Zhao described how the Youth Forum had changed her life: from living in a city in southwestern China, she has become a programme manager for Microsoft in the United States. “The future is in my hands,” she said.

The colourful ceremony, with many young participants wearing their national costumes, was followed by an intense week of discussion and interaction with senior figures in the field of ICT, as well as with world leaders including United Nations Secretary-General Ban Ki-moon. ITU is encouraging Member States to adopt school-based community broadband plans in order to give disadvantaged groups access to ICT. Mr Ban endorsed this effort, stating that “connected schools can become connected community ICT centres. They can provide a vital link to marginalized and vulnerable groups. They can become an information lifeline for women, indigenous people, people with disabilities and those living in rural, remote and underserved areas.” Mr Ban urged world leaders to support the ITU initiative and take the necessary steps to meet the target agreed at the World Summit on the Information Society to connect all schools by 2015.



From left to right at the Joint Forum closing: Director of the ITU Telecommunication Standardization Bureau Malcolm Johnson; Director of the ITU Telecommunication Development Bureau Sami Al Basheer Al Morshid; ITU Deputy Secretary-General and Acting Executive Manager of ITU TELECOM Houlin Zhao; youth fellows Ahmed Rashad Riad from Egypt and Maria Casey from Ireland, who presented the Youth Forum Declaration; ITU Secretary-General Hamadoun I. Touré; and Director of the ITU Radiocommunication Bureau Valery Timofeev

Highlights from the Declaration

Participants in the Youth Forum “truly want to make a difference in the future of ICT”. This is the vision laid out in a Declaration they issued on 9 October 2009. It covers five main areas, beginning with the need to give everyone access to ICT. “The world tends to emphasize innovation in ICT development, rather than the widespread distribution of ICT technologies and services,” it says, but instead, “innovation should strive to match resources available to local communities and their needs”. This includes the development of renewable energy sources and green ICT, as well as equipment and services that are accessible to people with disabilities.

Training and education are essential for progress and “the Youth Forum reminds world leaders that education and basic access to the world’s knowledge is a primary human right”. The Declaration adds that “a united world can identify the resources to meet

this important demand and harness the power of ICT as a tool for education and social development”. It envisages a global network of universities that students can join online. And all countries should work together to train personnel in ICT skills who then go on to train others — leading to exponential growth in expertise.

As well as the benefits of widespread connectivity, its risks are also mentioned in the Declaration, which stresses the need for cybersecurity and safety online. Raising awareness is the task of civil society, according to the Youth Forum, while “Internet service providers should provide solid solutions for child online safety”. It also proposes that safe use of the Internet should be made a compulsory part of the school curriculum and that ICT companies should help parents to become “more involved in communicating safe Internet usage to their children and to keep up with their children’s ICT expertise”.



Houlin Zhao

ITU Deputy Secretary-General and Acting Executive Manager of ITU TELECOM, during the Youth Forum opening



Robert Hensler

Geneva State Chancellor, during the Youth Forum opening



Bosco Eduardo Fernandes

Chairman of the ITU TELECOM Forum Advisory Committee and Vice President of BU & IM Industry Relationship, Nokia Siemens Networks GmbH & Co. KG, Germany. Mr Fernandes speaking at the Joint Forum closing ceremony

The Declaration recognizes that effective regulation of ICT is “crucial to development, both economic and social, especially in the light of the global financial crisis”. It stresses that “the needs of users should be the driv-

ing force for all regulations, to promote safe, affordable and widespread access to ICT”. Regulatory guidelines should be “based on common basic principles that can be followed by all countries of the world,” it adds. “We want to see open markets for telecommunications and ICT, in order to stimulate competition, and at the same time motivate local ICT companies in each country, to ensure affordability.”

Finally, the Youth Forum called for sustainable ICT projects and initiatives. To achieve this, local people must be actively involved from the start, and be offered training in “managing, financing and maintaining projects after external experts have left”. Echoing the principle behind ITU’s *Connect a School, Connect a Community* initiative, the Declaration says that schools should be at the centre of efforts because they bring communities together — “communities that have the knowledge and skills to manage and finance projects on their own, as well as initiate their own projects”.

A promise of continuing engagement

The Declaration ends with a promise to work towards achieving all these goals. “We are dynamic individuals, representing different nations, religions and cultures, yet united in our commitment: a commitment to global change and increased awareness,” the document states. “We, the Fellows of the Youth Forum, commit ourselves to continued engagement with governments and other stakeholders” in order to “educate people, unite countries, and connect the world.”

The Youth Forum called for sustainable ICT projects and initiatives. To achieve this, local people must be actively involved from the start, and be offered training in managing, financing and maintaining projects after external experts have left.



Dignitaries at the opening ceremony



From the centre (left to right): Rwanda's President Paul Kagame; Sierra Leone's Vice President Alhaji Samuel Sam-Sumana; and ITU Secretary-General Hamadoun I. Touré accompanied by Geneva's "Vieux Grenadiers" at the opening ceremony



Ribbon-cutting ceremony at the opening of ITU TELECOM WORLD 2009



Dignitaries on a VIP tour of the Exhibition stop at the Azerbaijan stand

President Robert Mugabe of Zimbabwe (left) on a VIP tour of the Exhibition on 7 October 2009, accompanied by ITU Deputy Secretary-General and Acting Executive Manager of ITU TELECOM Houlin Zhao





ITU TELECOM WORLD2009



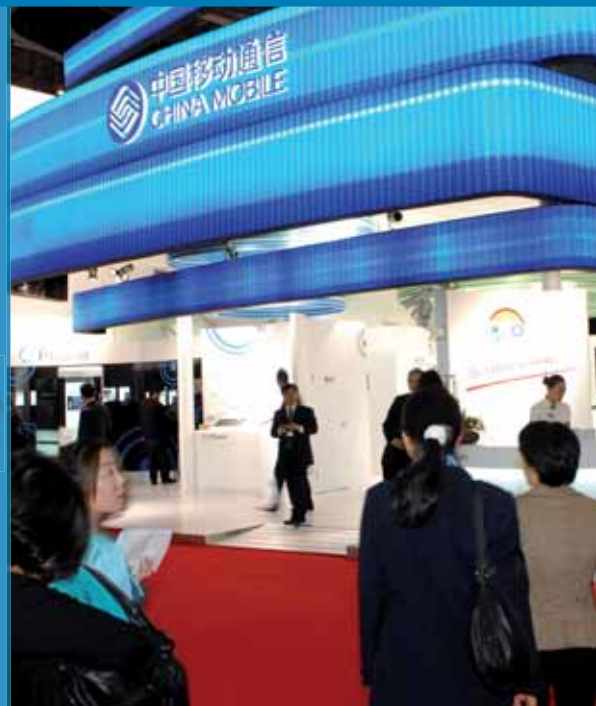
From left to right: ITU Secretary-General Hamadoun I. Touré; Chairman and Chief Executive Officer of China Mobile Wang Jianzhou; and ITU Deputy Secretary-General and Acting Executive Manager of ITU TELECOM Houlin Zhao

Director of the ITU
Radiocommunication Bureau
Valery Timofeev (right)
during an interview with
Telecom TV



From left to right:
Director of the ITU
Telecommunication
Standardization Bureau
Malcolm Johnson; Director of
the ITU Telecommunication
Development Bureau Sami
Al Basheer Al Morshid; Chief
Executive Officer of the STC
Group Saud bin Majed Al
Daweesh; and ITU Deputy
Secretary-General and Acting
Executive Manager of ITU
TELECOM Houlin Zhao





Exhibitors at ITU TELECOM WORLD 2009

- › 3-GSP
- › 3GPP
- › A-D Technologies
- › Abilis
- › Ability by Willager.Com
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- › Actus
- › ADB
- › Adeya
- › AEC
- › AICTO
- › AIMS
- › Airspan Networks
- › Airsys
- › Al-Iktissad Wal-Aamal
- › Albis Technologies
- › Allied Soft
- › Alp ICT
- › Alphion
- › ALS & TEC
- › Alvarion
- › AMD Global Telemedicine
- › Amdocs
- › Arabsat
- › Argela
- › ARTP
- › arx iT
- › ASB
- › ASSOCHAM
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- › Automation
- › Avertim
- › AWEX – Wallonia Region Belgium
- › AWT.be
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- › Axis Network Technology
- › AXTEL
- › AzEduNet
- › Azerbaijan Pavilion
- › Azercell Telecom
- › Azertelecom
- › BE IP
- › Beceem
- › Belgium Pavilion
- › Bestcomp Group
- › Bhansali Cables & Conductors
- › Bharat Sanchar Nigam
- › Boozter
- › Brussels Export
- › Burundi Pavilion
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- › C114
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- › Caspel
- › CBS Products
- › CE + T
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- › CellMax Technologies
- › Cellmetric
- › CERN
- › CGIS
- › Chau Leong
- › China Foundation for Disabled Persons
- › China Mobile
- › China Potevio
- › China SME Pavilion
- › China Unicom
- › Ciena
- › Cisco
- › CITC
- › CITEL2CP
- › CityOnline.net
- › Clearwire
- › CNBC
- › CobiNet
- › COFETEL
- › Communications Africa/ Afrique
- › Communications Weekly
- › Company TTK
- › Comtek Network Systems
- › Comverse
- › Connect The World / e:Telesis
- › Connect-World
- › Convergencia Latina
- › CopperGate
- › Corecess
- › CSEM
- › CSI
- › CTI Group
- › CTO
- › Cubix Communications
- › D.G.Sociedad de la Informacion
- › D.G.Telecomunicaciones
- › DADI Telecom
- › DAISY Consortium
- › Damery
- › Dash-S Technologies
- › Datang
- › Delivery Management
- › Delta Telecom
- › Dempa Publications
- › DiGi
- › Digital Communication World Magazine
- › Digitalk
- › Dilmanc Project
- › DiViSy Group
- › DOCledge
- › E-Fulusi
- › Earth Focus Foundation – Green Map
- › Eastern European Wireless Communications
- › Economic Development Office – Republic and State of Geneva
- › ECOWAS Pavilion
- › Egypt Pavilion
- › Egypt Post
- › eHealth Pavilion
- › Enea
- › Enqio
- › Equinix
- › ESRI

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- › European Reseller
- › Everyone Counts
- › Excentis
- › Exicom Tele-Systems
- › Fabrinet
- › Femto Forum
- › FGUP MGRS
- › FiberHome Technologies
- › Fibrolan
- › Financial Times
- › FNMT
- › France Pavilion
- › Green@ICT Pavilion
- › Grintek Ewation
- › H-OPTEL
- › Hengxin Technology
- › Hewlett-Packard
- › Hispasat
- › HPXIN
- › Huawei Technologies
- › Huawei Technologies Germany
- › Hughes – Mexico
- › I-Touchsystems
- › IARU
- › IBM
- › Ibys Technologies
- › ICANN
- › ICE
- › International Gateway Distribution
- › International Herald Tribune
- › International Society for Telemedicine and eHealth Pavilion
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- › Inveneo
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- › ISFteH
- › KLEWEL
- › Korea Pavilion
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- › Lake Geneva Region Pavilion
- › Lanetco
- › Laxman Televentures
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- › LINKdotNET
- › LS telcom
- › MailCleaner
- › Malawi Pavilion
- › Malaysia Pavilion
- › Mandozzi
- › Manifone
- › Marais Group
- › Marben Products
- › Information Technology – Saudi Arabia
- › Ministry of Culture and Tourism – Azerbaijan
- › Ministry of Education – Azerbaijan
- › Ministry of Health – Azerbaijan
- › Ministry of Industry and Energy – Azerbaijan
- › Ministry of Information, Communications & Culture – Malaysia
- › Ministry of Justice – Azerbaijan
- › Ministry of Taxes – Azerbaijan



Egypt Pavilion



Fujitsu



Japan Pavilion



Lake Geneva Region

- › Freedom Scientific
- › FTMSA
- › Fuel Cell Markets
- › Fujitsu
- › Galaxy
- › Gasabo 3D
- › Gazprom Space Systems
- › Genesis
- › GEOIMAGE
- › GEROCO
- › Ghana Pavilion
- › GILLAM-FEI
- › Global Market
- › Globtel
- › GMP Tools
- › GO
- › Gobierno del Estado de Veracruz
- › Gowell Telecom Technology
- › Gowex
- › Green WiFi
- › ICOMM
- › IcTel
- › id Quantique
- › Idris Group
- › Idris Invest
- › Idris Telecom
- › IFLA
- › Ifotec
- › IICT-HEIG-VD
- › IMO Publishing
- › India Pavilion
- › Indigo Software
- › Informa Telecoms & Media
- › Information Technology Industry Development Agency (ITIDA)
- › Inmarsat
- › Innova
- › Intel
- › Intellect
- › Intelsat
- › Israel Pavilion
- › ITRI
- › ITU
- › ITU News
- › ITU Publications
- › ITU TelecomTV
- › ITU-IMPACT
- › IXI Mobile
- › IZIVIZ
- › Jain Irrigation
- › Japan Pavilion
- › Jharden
- › Junta de Andalucía – Consejería de Innovación, Ciencia y Empresa
- › KACST
- › Kathrein
- › KDDI
- › Kemilinks International
- › Kenya Pavilion
- › Kipor Machinery
- › Matrix Telecom
- › MaxCell
- › MAXIS
- › MCMC
- › MEASAT
- › Med-e-Tel
- › Medgate
- › Medigrid CZ
- › Medikidz
- › Meet the Boss
- › MERA Systems
- › Metrodata
- › Mexico Pavilion
- › Microsoft
- › Microtex Energy
- › Ministério das Telecomunicações e Tecnologias de Informação de Angola
- › Ministry of Communications &
- › Misr Information Services & Trading
- › Mitra Energy & Infrastructure
- › Mitsubishi Electric
- › MITYC
- › Mobile Europe/European Communications
- › Mobile World
- › Mobily
- › Mobyle Cash Global Networks (UK)
- › Modular Network Solutions
- › MPDevice
- › MSC Malaysia
- › MSC
- › MTI Wireless Edge
- › MTN
- › Multi-Links Telkom
- › Multitel

- › National Broadcasting Commission (NBC)
- › Naxoo
- › NCC
- › Nenshi
- › NetEase Tech News
- › NetGuardians
- › Netwings Infotech
- › Network Telecom
- › NetworkMining
- › NeuStar
- › New Artel
- › Nextel – Mexico
- › NHK
- › NICT
- › Nigeria Pavilion
- › NIIR
- › NomaDesk
- › picoChip
- › Pivot Access
- › Plumettaz
- › Portuguese Language Countries Pavilion
- › POWERGRID
- › PTAC
- › Qosmos
- › QSN Technology / ICare Institute
- › QuadGen Wireless
- › Quintel Technologies
- › RACSA
- › Radio Frequency Service (RFS)
- › Raisecom
- › Raya Holding
- › Rays of Hope
- › SEBIT
- › SEC Industrial Battery Company
- › SECU4
- › Sensomatrix
- › SensorScope
- › ServersCheck
- › SETSI
- › Setu Infocom
- › Shandong Senter
- › Shoto
- › SIG
- › SINAM
- › Siradel
- › Sirius Telecom
- › SISVEL
- › Smart Villages Company
- › SoSoftware
- › TCIL
- › TDIA
- › TE Data
- › Tejas Networks
- › Telcabo Moçambique
- › Telcel
- › Telco Systems
- › TELECOM 2.0/BILLINGOSS
- › Telecom Asia, Telecoms Europe & Wireless Asia
- › Telecom Egypt
- › Telecom Review
- › Telecommunications/Artech House Books
- › Telefonica
- › Telemedia Communications
- › Telenco
- › TeleTech
- › UNDP
- › UNESCO Pavilion
- › UNICEF
- › Unidata Communication Systems
- › United Kingdom Telecommunications Academy UKTA
- › US Commercial Service
- › UTEL
- › Vanrise Solutions
- › Vasco Data Security
- › VNL
- › Volotek
- › Web Spiders
- › WiMAX Forum Pavilion
- › WIPO
- › WISEKey



Mexico Pavilion



Russia Pavilion



Samsung



Uganda Pavilion

- › NOSI
- › NOWTEL
- › NRO
- › NTA
- › NTT
- › NTT DOCOMO
- › NTX Research
- › Nuance
- › Occam Networks
- › OFCOM (Switzerland)
- › Office for Economic Affairs – State of Vaud (SELT)
- › Omatek
- › OptiWay
- › Orascom Telecom
- › Orckit – Corrigent
- › Oscilloquartz
- › P1
- › Peter Service
- › Philippines Pavilion
- › RED.ES
- › Redwood Technologies
- › RFM Wireless
- › Rohde & Schwarz
- › Rosari-IT Services
- › Rostelecom
- › RSCC
- › Runcom
- › Russia Pavilion
- › Rwanda Pavilion
- › RYMSA
- › SAFT
- › SAGIA
- › Sai InfoSystem
- › Samsung
- › SATMEX
- › Saudi Arabia Pavilion
- › Saudi Telecom Company
- › Schmid Telecom
- › Seacom
- › Spain Pavilion
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- › Spice Digital
- › SSPF
- › Storacall Voice Systems
- › STPI
- › Supreme
- › Suttle
- › Svyazinvest
- › Swisscom
- › Swissvoice
- › Synchronica
- › Synverse
- › SySDSoft
- › Sytel
- › SZYHT
- › Tanzania Pavilion
- › Tata Consultancy Services
- › TAYOA
- › Telkom South Africa
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- › Türk Telekom Group
- › tzNIC
- › Uganda Pavilion
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- › Ukraine Pavilion
- › UKTI
- › ULTRA Company
- › UMTS Forum
- › UN Pavilion
- › UNAIDS
- › UNCTAD
- › WMO
- › World Telecom Labs
- › Worldcall
- › Wyless
- › Xceed
- › XL Communications
- › Yota
- › Zain
- › ZE
- › Zhejiang Tianjie
- › Zinox Technologies
- › ZTE



Looking ahead to celebrating the 40th anniversary of ITU TELECOM in 2011

For the first time, each Forum session and round table discussion at ITU TELECOM WORLD 2009 featured interactive question and answer sessions — with a ‘ban’ on electronic presentations. This more open, dynamic approach was key to allowing collaboration between participants and the sharing of best practice and case studies.

ITU will organize a celebration of the 40th anniversary of ITU TELECOM WORLD in Geneva in 2011 to mark the event's founding in 1971. Looking ahead, ITU Deputy Secretary-General Houlin Zhao and Acting Executive Manager of ITU TELECOM said, “we are already working with our partners to put together an exceptional 40th anniversary event that will feature even more interactivity, more top-level debate, and more exciting new technologies.”



The Swiss telecommunications market*



Using mobile phones on the slopes of Mount Titlis in the Swiss Alps

Switzerland, a country at the centre of Europe, has a telecommunication market with features that are distinct from its neighbours. While fixed line services are favourably priced, mobile communications are comparatively expensive — but customers tend to remain loyal to their providers. And Switzerland has trodden an unusual path in making broadband Internet access part of universal service obligations — one of the first countries to do so.

Broadband included as a universal service

The decision to include broadband as a requirement in the provisions for a universal service was taken in recognition of its importance in Switzerland in today's information and knowledge society. Moreover, the installation of broadband access covering most areas of the country is technically feasible, and more and more applications can now only be accessed using broadband technology.

The political will to provide even outlying regions with access to a broadband service was an important factor in the incorporation of such an obligation into the universal service. The historical incumbent operator, Swisscom AG, was given the mandate of

providing a universal service and now offers broadband connections almost everywhere. The corresponding universal service licence has been in force since 1 January 2008.

In order to be able to prepare the new licence, Switzerland's Federal Office of Communications (OFCOM) had to evaluate several criteria, such as whether there was interest in broadband services, whether these were accessible to the general public, and the broadband penetration rate. This evaluation revealed a somewhat divergent situation. Although at the time of the survey over 98 per cent of household connections were broadband-compatible from a technical viewpoint, the penetration rate was less than 20 per cent. Participation in community life therefore appeared not to be primarily dependent on access to broadband services. Nevertheless, having looked at the overall picture, the government decided to pursue this route.

* This article was contributed by the Swiss Federal Office of Communications.

The financial risks involved were limited through allowing costs of expansion to be covered, if necessary, by recourse to a universal service fund already provided under statutory arrangements. In addition, Switzerland's top governing body, the Federal Council, specified relatively modest minimal broadband transmission rates, while specifying upper price limits for broadband as part of the obligation to provide services. The financial risk could also be limited because the obligation is technology-neutral and slightly reduced services are permitted if difficult conditions are encountered. As a result, Swisscom was able to provide coverage to almost the whole of Switzerland, without having to call on financial compensation from the universal service fund.

At the end of 2008, 84.6 per cent of Swiss Internet users had broadband access; 69.3 per cent of them had digital subscriber line (DSL) connections and 28.8 per cent had cable modem access. Various other access technologies played a lesser role at only 1.9 per cent. Just over half the connections in Switzerland were provided by the historic operator, Swisscom AG (52.3 per cent).

ICT in Switzerland, 2008 (per 100 inhabitants)	
Fixed telephone lines	64.11
Mobile phone subscriptions	117.97
Computers	97.60
Internet users	76.10
Broadband Internet subscribers	34.15

Source: ITU

Despite unbundling in 2007, Swisscom's market share in the broadband sector has continued to grow. This is primarily because, so far, most providers of DSL Internet services have been restricted to reselling one of Swisscom's services. The situation for alternative providers has worsened accordingly: within the space of a year, their share of the DSL connection market dropped from 27.3 to 24.5 per cent. The implementation of unbundling appears not yet to have brought about a reversal of the trend.

Very competitive fixed line network

The small market share (in comparison with the rest of Europe) that Swisscom has managed to retain in the fixed network market sheds some light on the development and current status of competition. The greater the share of the historic operator, the less the alternative providers have succeeded in penetrating the market. For Switzerland, Swisscom's share (59.3 per cent) of the entire fixed network market is well below the average (64.8 per cent) of the countries of the European Union. Only the historic operators in Sweden (57 per cent), Germany (51 per cent) and the United Kingdom (58 per cent) have smaller market shares.

Competition is therefore effective in the Swiss fixed network market, and at the end of 2007, some 75 companies were offering voice telephony on the fixed line network. This situation shows that there are evidently no longer any hurdles restricting entry into the Swiss telecommunication market. A positive sign is the fact that in 2008, three more providers were active in the market than in the previous year.

► At the end of 2007, some 43 companies were involved in the Internet protocol (IP) telephony sector, compared with 30 in 2006. This places Switzerland as one of the top European countries in this category, in sixth place out of 25 countries. Of all IP telephony connections, 85 per cent use cable television (CATV) networks.

Since market liberalisation in Switzerland in 2006, the charges for using fixed networks have fallen markedly. Despite this, competition has not yet led to complete harmonization of connection prices. Comparing Swisscom with another operator, Sunrise, for instance, reveals that Sunrise's prices for national calls are 20 per cent lower for a three-minute call, and 10 per cent lower for a ten-minute call. Even in the case of international calls, which are already reasonably priced in Switzerland, it is still often possible to make savings of between 13 and 16 per cent. Depending on call duration and destination, Swiss customers could save more if they were to select their service provider according to their pattern of usage.

Mobile communications: more expensive, but customers stay loyal

The status of competition in the Swiss mobile communications market has some distinctive features. Although Swisscom's prices are not the cheapest, customers are still very interested in its services. Swisscom's market share is approximately 62 per cent, which is high for an historical operator in comparison with the European average of 38.3 per cent. This puts Switzerland in second place in Europe after Cyprus (85.2 per cent).

It is also unusual that Swiss users of mobile telephony prefer more expensive contracts to cheaper prepaid systems (57.3 per cent versus 42.7 per cent). In the EU, the ratio between these two methods of payment is almost exactly reversed (58.2 per cent prepaid compared with 41.8 per cent contracts). It would seem that factors other than price are decisive here: customers in Switzerland seem to appreciate an attractive service and good coverage, as well as being able to use their mobile phones without any limitations.

Four companies operate mobile communication networks in Switzerland (Swisscom AG, Sunrise Communications AG, Orange Communications SA, and In&Phone), with the three largest operating third-generation (3G) networks, in particular the Universal Mobile Telecommunications System, or UMTS. Despite Switzerland's relatively small size, this puts it among the top rankings for the number of operators that typically serve the markets in EU countries.



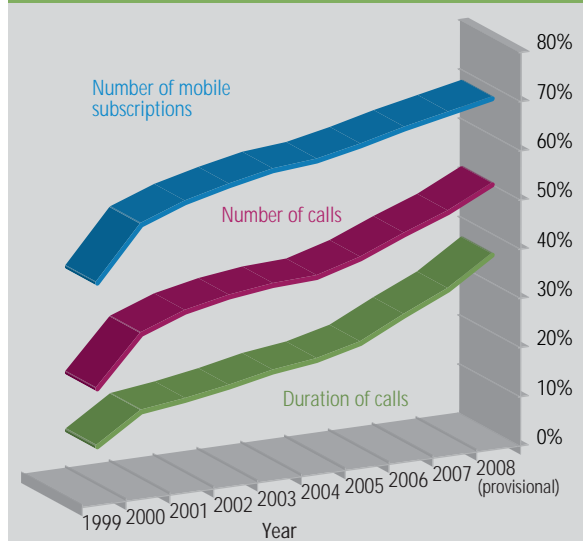
However, merely having several providers does not always guarantee effective competition. The prices charged for mobile services in Switzerland are, on average, 57 per cent higher than those in the EU (the difference varies according to usage and the type of customer contract). This is linked with the fact that Swiss customers are reluctant to change providers. It should also be mentioned that the Swiss mobile telephony market was only liberalized in 1998, and that Switzerland has strict regulations on the construction of mobile infrastructure and protection from radiation. In addition, disputes about termination rates can only be resolved by the authorities if they are requested to intervene by a party to such negotiations. (Termination rates are fees charged by mobile network operators for routing traffic of other carriers.)

Development of fixed line and mobile telephony

As in other countries, there is a trend in Switzerland towards mobile communications replacing the fixed network (see Figure 1). However, given the current market situation and price differences between the more favourable fixed network telephony and comparatively expensive mobile communications, to date this trend has been developing relatively moderately. If applied to the total duration of all phone calls, at the end of 2008 the proportion of mobile calls was just under 40 per cent. The fixed network also remains the preferred platform for longer calls.

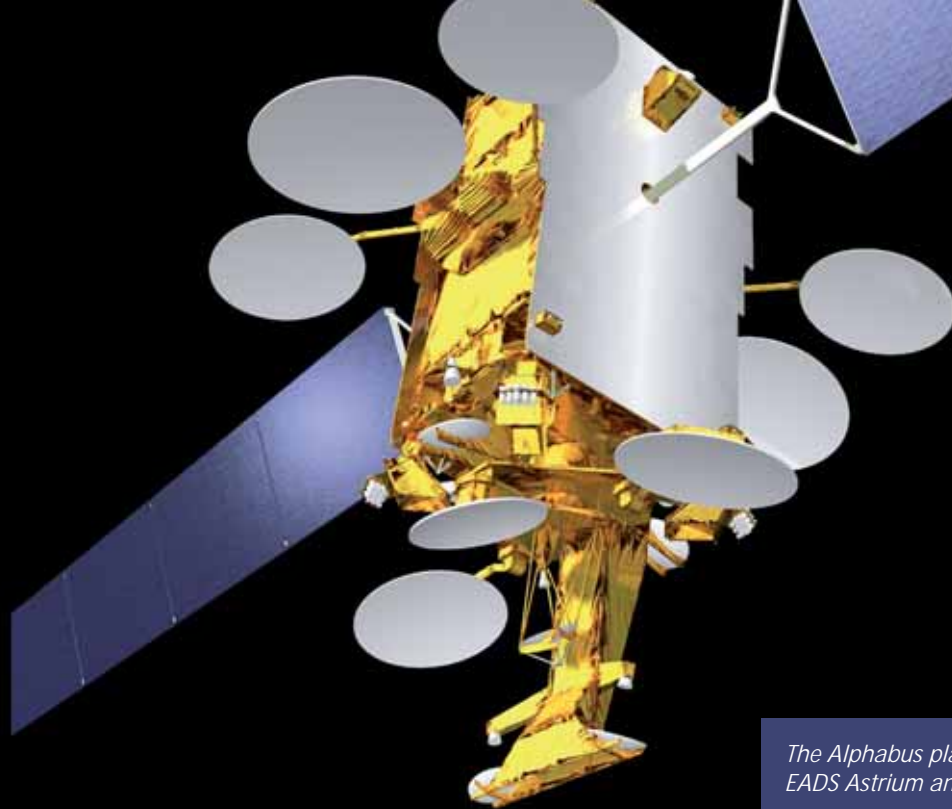
However, the full potential of mobile communications is revealed when comparing the number of fixed network connections and mobile telephony contracts. In 2008, some 70 per cent of all new connection contracts were in the mobile telephony sector (prepaid or post-paid).

Figure 1 — Mobile telephony share of the Swiss market



Source: Official Swiss Telecommunications Statistics for 2008, provisional results (Swiss Federal Office of Communications)

In terms of the number of calls made, in Switzerland the fixed line and mobile networks are more balanced. In recent years, mobile telephony has clearly increased — even in 2005 it already accounted for approximately 40 per cent of calls. Consumer habits are evidently changing, and reaching for your mobile phone is increasingly becoming a matter of course.



The Alphabus platform developed by EADS Astrium and Thales Alenia

Satellite industry outlook

Beyond the global economic downturn

The satellite industry maintained strong growth in 2008 and has solid prospects for 2009 despite the global economic downturn, according to Euroconsult, international analysts specializing in satellite communications.

The firm (based in Paris, France) says that satellite operators continue to benefit from high demand for digital broadcasting, as well as from the increasing need for satellite imagery for security and environmental purposes. In addition, new satellite projects from emerging regional operators and innovative applications are creating demand for spacecraft, with 25 commercial geostationary satellites ordered by operators in 2008 and a similar number expected by the end of 2009.

These trends were highlighted at Euroconsult's *World Satellite Business Week*, held in Paris, France, on 7–10 September 2009. The event brought

together more than 500 chief executives and other business leaders from the global and regional fixed-satellite service (FSS) and mobile-satellite service (MSS) sectors, as well as broadband and Earth observation operators and service providers. Also attending were satellite manufacturers, launch service providers, and insurers and investors representing investment banks and private equities. A key theme of discussions was how to maintain growth in the global economic downturn and beyond.

The fixed-satellite service stays strong

The FSS sector has been one of the most resilient in the downturn, with total revenue growth of 10.7 per cent in 2008 (leading to around USD 9.8 billion), mainly as a result of big rises in demand for capacity, combined with high fill rates.

According to Euroconsult's Chief Executive Officer Pacôme Revillon: "Digital television broadcasting remains the primary growth engine for the FFS market. In 2008, 18 new satellite pay-TV platforms were launched, bringing the total to 109 platforms now in service. Over 24 000 television channels are now broadcast via satellite, with more than 2900 channels added in 2008." Subscribers to pay-television were estimated at 112 million in that year.

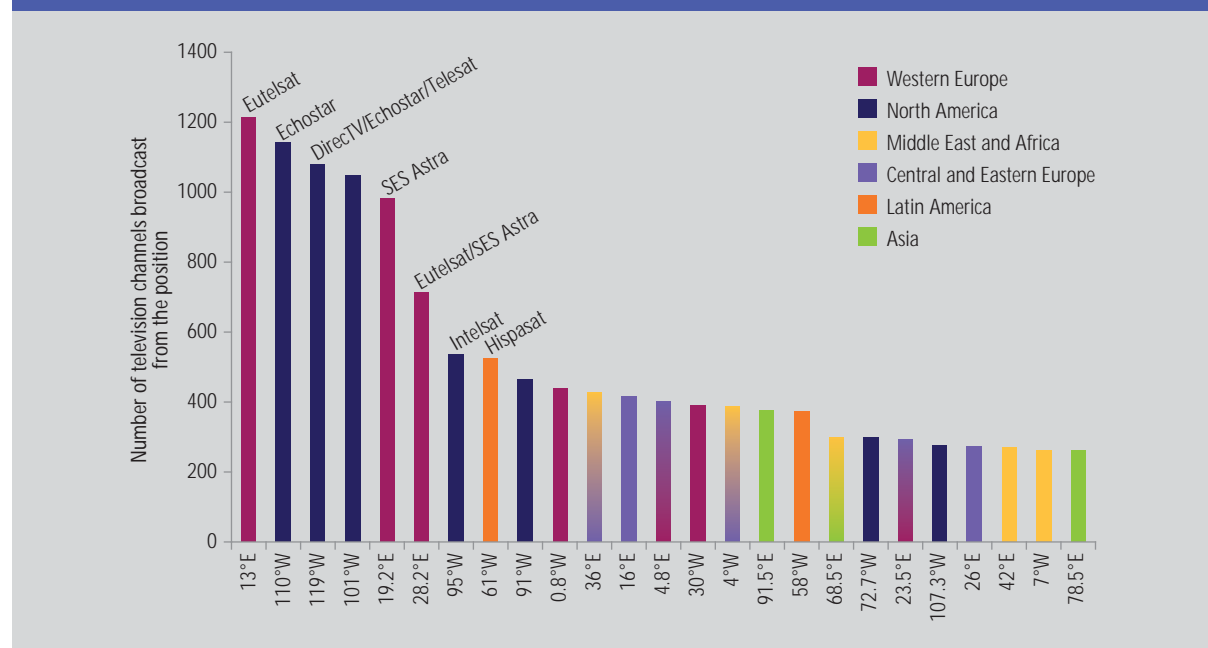
The introduction of high-definition television is also supporting the sector, as well as ongoing demand for corporate networks and the introduction of

broadband satellite payloads and new technologies with improved compression techniques.

Emerging markets drive growth

Growth in demand for transponders has remained strong, particularly in emerging satellite markets, which include Latin America, Africa, Central Europe and large parts of Asia. These represented 53 per cent of capacity usage worldwide and 71 per cent of the net increase in capacity leased in 2008, according to Euroconsult's report *Satellite Communications and Broadcasting Markets Survey: Forecasts to 2018*.

Figure 1 — Top 25 orbital positions for television broadcasting for FSS operators and proprietary systems (worldwide, January 2009)



Source: 16th Satellite Communications and Broadcasting Markets Survey — Forecasts to 2018. © 2009 Euroconsult



The switch to digital television broadcasting is the main growth engine for the FSS sector

It says that these regions' share of total demand for capacity is expected to reach about 58 per cent in 2013. Most are young, fast-growing markets for digital television. They also need to carry fixed and mobile telecommunication traffic using satellites as a backbone in areas not covered by terrestrial networks. While the economic downturn could affect the development of satellite services in emerging markets, growth is expected to remain stronger than in the established markets of North-East Asia, North America and Western Europe.

Broadband satellite services on the rise

The number of subscribers to broadband access by satellite exceeded 1.2 million in 2008. Growth was primarily in the United States, followed by Asia, and was due to the availability of dedicated broadband service satellites. In the United States, WildBlue and Hughes are driving market growth. In the Asia-Pacific region, coverage for many countries is provided by the IPSTAR broadband satellite that is designed for two-way high-speed communications over Internet protocol platforms.

The broadband satellite market is expected to change significantly in the next three years. New broadband satellite projects in the Ka-band have begun to flourish, and by 2011 new systems with much larger capacity are expected to be operational in North America, Europe, the Middle East, and North Africa. The market is expected to reach 10.5 million subscribers worldwide by 2018. But to ensure success, key challenges must be addressed, such as technical aspects and regulation, and the ability to build strong distribution networks in fragmented markets.

Prospects

Euroconsult predicts that although prospects remain solid for 2009, the FSS sector might have reached a peak in its growth cycle in 2008. Nevertheless, growth should remain significant. The global market value of capacity used for the traditional FSS market is predicted to reach some USD 13.4 billion in 2018 (or USD 16.8 billion, including wholesale revenues from BBS systems dedicated to providing broadband access). The analysts foresee



Demand for MSS will be driven by the provision of in-flight communications for passengers on planes

continuing consolidation in the sector, offset by the emergence of new regional satellite systems.

MSS: more revenue growth, but finance might be tight

In the mobile-satellite service (MSS) sector, operators' revenues grew to over USD 1.2 billion in 2008, according to Euroconsult's report *Mobile Satellite Communications Markets Survey: Prospects to 2018*, released on 7 October 2009. It says that the MSS industry is at a crucial point; growth opportunities lie ahead, but several operators have high capital requirements in a difficult financing situation. "Despite the adverse economic environment, MSS operators' core market — critical mobile communications where terrestrial networks are not available — has been robust," Mr Revillon commented. The demand for better broadband communications and remote control of assets is seen as a key growth driver for the sector.

Several operators are on the verge of replacing their aging satellite fleets, while others are seeking funds for future systems. After Globalstar's success in achieving funding in 2009 with support from the

French export credit agency Coface, Iridium is looking to raise an estimated USD 2.7 billion for its constellation known as NEXT. Meanwhile, consolidation is a growing trend. Inmarsat recently acquired Stratos Global, and Apax Partners merged two large MSS providers to form Vizada. Renegotiation of the Commercial Framework Agreement in 2009, which defines the commercial relationships between Inmarsat and its service providers, is expected to further reshape the market.

Growth driven by aeronautical and maritime markets

The aeronautical segment is seen as the main growth driver for MSS communications in the coming decade. It is still at an early stage of development, accounting for 7 per cent of MSS wholesale revenues in 2008, but Euroconsult expects the market segment to significantly grow reaching wholesale revenues of more than USD 270 million in 2018. This positive outlook is due to the emergence of several specialized service providers, such as OnAir and AeroMobile, and the launch of new MSS products for the aeronautical segment. A particularly important

▶ driver of demand will be the adoption of communication services for passengers during flights. But in the short term growth could decline, since the economic crisis has had a major impact on two key markets: business aviation and commercial airlines.

The maritime sector is still a major market for MSS, with some USD 400 million in wholesale revenues in 2008. While data applications will provide

the engine for growth — particularly higher data-rate MSS broadband systems — voice will remain an important application for crew welfare and safety communications. The Asia-Pacific region will be especially important for MSS growth in maritime markets as competition among operators and service providers becomes more intense.

Satellite-based Earth observation: a fast-growing sector

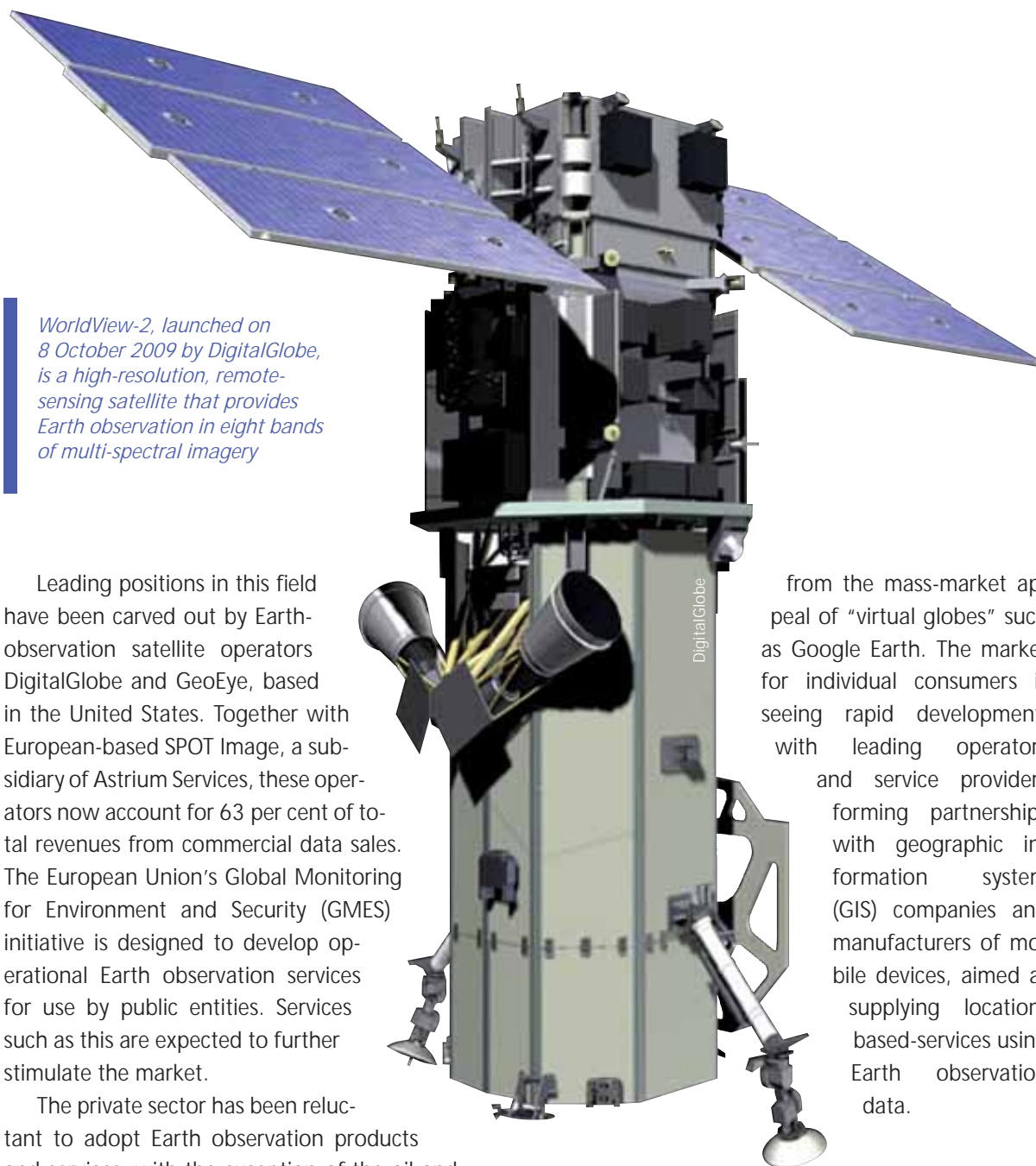
The satellite-based Earth observation sector is witnessing dramatic growth, with 260 satellite launches expected between 2009 and 2018, compared to 128 in the previous decade. According to Euroconsult's report *Satellite-Based Earth Observation: Market Prospects to 2018* released on 3 September 2009, governments and private stakeholders will play an important role in driving and benefiting from growth. Leading Space agencies, such as the United States National Aeronautics and Space Administration (NASA), the European Space Agency (ESA), and the Japan Aerospace Exploration Agency (JAXA), have outlined ambitious programmes for the coming decade.

With booming demand expected for both complex and low-cost Earth observation missions, the manufacturing and launch industries are likely to enjoy significant returns, says the report. Emerging countries could represent up to 17 per cent of demand for low-Earth orbit (LEO) satellites to be launched over

the next ten years. Many of these countries use Earth observations for such important local needs as monitoring natural resources and disaster relief, while also seeing the satellites as a first step towards national Space programmes. Competition is intensifying as barriers to market entry fall and emerging suppliers expand their capabilities by means of technology transfer initiatives.

Demand for data fuels growth

Public investments in civil government Earth observation activities reached USD 5 billion in 2008, and the sector remains largely dependent on governments for research and development and as customers for data. Increasingly, though, public agencies are looking to sell data commercially. With a projected growth of 33 per cent in 2009, the commercial data market is expected to reach USD 1.2 billion in revenues.



WorldView-2, launched on 8 October 2009 by DigitalGlobe, is a high-resolution, remote-sensing satellite that provides Earth observation in eight bands of multi-spectral imagery

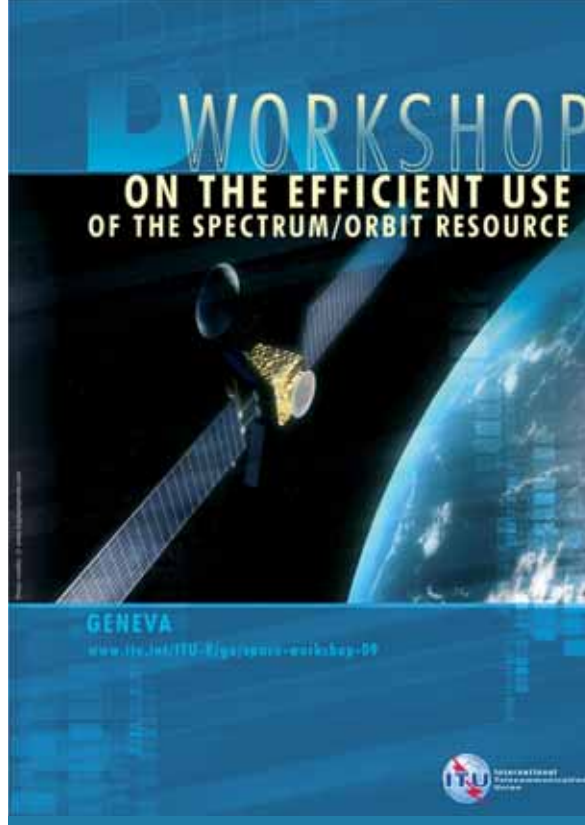
Leading positions in this field have been carved out by Earth-observation satellite operators DigitalGlobe and GeoEye, based in the United States. Together with European-based SPOT Image, a subsidiary of Astrium Services, these operators now account for 63 per cent of total revenues from commercial data sales. The European Union's Global Monitoring for Environment and Security (GMES) initiative is designed to develop operational Earth observation services for use by public entities. Services such as this are expected to further stimulate the market.

The private sector has been reluctant to adopt Earth observation products and services, with the exception of the oil and gas industries. But recently, there has been a boost

from the mass-market appeal of "virtual globes" such as Google Earth. The market for individual consumers is seeing rapid development, with leading operators and service providers forming partnerships with geographic information system (GIS) companies and manufacturers of mobile devices, aimed at supplying location-based-services using Earth observation data.

Spectrum and orbit matters

Promoting efficient use of finite resources



The radio-frequency spectrum and the geostationary orbit around Earth are finite resources that are in rapidly increasing demand. So it is crucial that they are used efficiently. This issue was on the agenda at the ITU Plenipotentiary Conference in 2006, and at the World Radiocommunication Conference in 2007 (WRC-07). Administrations, satellite operators and industry were asked to seek ways to improve the procedures governing access to orbits and frequencies, in order to reflect the latest technologies.

In May 2009, ITU's Radiocommunication Bureau (BR) organized its first-ever workshop on the efficient use of the spectrum/orbit resource. It was time to openly discuss issues that are often considered "sensitive" and hopefully make progress towards improving the regulatory framework for international satellite registration, on the agenda of the World Radiocommunication Conference to be held in Geneva in 2012 (WRC-12).

The use of Space-based radiocommunication services has risen considerably and it has become increasingly difficult for administrations to obtain suitable new geostationary satellite orbit (GSO) positions and frequencies (for both planned and non-planned services) and to coordinate them under the Radio Regulations. Today, there is a real overload upon GSO

locations in some parts of the orbit for some coverage in some frequency bands.

At the BR workshop, among the key questions raised was whether, through existing procedures for registering frequency assignments for Space services, ITU and the Radio Regulations bring added value to administrations and the satellite community. Also, how can efficient use of the spectrum/orbit resource be ensured, and how can international satellite spectrum management systems be improved? The issues were discussed thoroughly, focusing on the trade-offs required among technical, operational, regulatory and economic efficiencies.

Participants recognized that meeting the challenge will require the combined efforts of all members of ITU — and they commended BR for organizing a forum for discussion. They concluded that such exchanges of view should be encouraged and enlarged, in order to help develop proposals for enhancing access to, and the efficient use of, the spectrum/orbit resource. To achieve this, the topic should be among standing items on the agendas of WRC. There was also consensus that the international regulatory framework for registering satellite networks must be improved, and be in operation (or ready for operation) by WRC-12.



Council 2009

Responding to global challenges

ITU's governing body, the Council comprising 46 Member States, held its annual session on 20–30 October 2009. It considered and approved ITU's biennial budget for 2010–2011 and discussed implementation of the Union's strategic and operational plans that are designed to respond to the demands of an ever-changing telecommunication environment.

Ghana at the helm

Leadership of the Council is rotated among the world's regions. This year it was the turn of Africa, and Haruna Iddrisu, Member of Parliament and Minister of Communications of Ghana, was elected as Chairman. The Asia and Australasia region provided Vice-Chairman R.N. Jha, Deputy Director General (International Relations), Department of Telecommunications, Ministry of Communications and Information Technology, India. Taking the chair of the Council's Standing Committee on Administration

and Management was Reynaldo C. González Bustamante (Mexico), alongside Vice-Chairmen Jason Ashurst (Australia) and Blanca González (Spain).



Ghana's Minister of Communications and Member of Parliament Haruna Iddrisu was elected as Chairman of this year's session of the Council



India to host WTDC-10

The next ITU World Telecommunication Development Conference (WTDC-10) will take place in Hyderabad, India, on 24 May–4 June 2010. A host country agreement was signed during the Council session by ITU Secretary-General Hamadoun I. Touré and P.J. Thomas, Secretary, Department of Telecommunications, MCIT, India

Mr Iddrisu paid tribute to outgoing Council Chairman Plamen Vatchkov, of Bulgaria, for the work done in the past year and wished him every success in his future career. Mr Iddrisu said he was humbled to have been given the opportunity to chair Council 2009, which was set to “discuss issues of immense strategic importance for the Union,” especially in the run-up to the ITU Plenipotentiary Conference in 2010.

“Our major task is to bridge the digital divide,” the Chairman told participants. “We must set the tone and agenda on how to strengthen regulatory practices, address issues related to convergence and ensure the smooth functioning of the Internet. We must also address the key challenges of our times, such as harnessing the power of information and communication technologies (ICT) to mitigate and adapt to the effects of climate change. At the same time, we must focus on the other issues affecting developing countries: how they can build capacity and attract investment in order to achieve the connectivity targets set by the World Summit on the Information Society and meet the 2015 Millennium Development Goals.”

Underlining that the ICT sector is not immune to the global financial crisis, Mr Iddrisu said that ITU must “plan ahead to minimize the degree to which the financial crisis will affect the Union, the ICT industry, as well as countries, in these dramatic and uncertain times.” And he called on all countries to

collaborate on protecting cybersecurity, in particular through ITU’s Global Cybersecurity Agenda.

Operational plans for 2010–2013

The Council considered and approved the Union’s four-year rolling operational plans for 2010–2013. For the Radiocommunication Sector (ITU-R), the period will be very busy, with 2010 and 2011 dominated by finalizing implementation of the outcomes of the World Radiocommunication Conference in 2007 (WRC-07). At the same time, preparations for WRC-12 will be well under way. An intensive programme of work for the Radio Regulations Board is envisaged, and there will be a continuation of the cycle of activities of the ITU-R study groups.

The operational plan for the Telecommunication Standardization Sector (ITU-T) reflects the status of implementation of the outcomes of the World Telecommunication Standardization Assembly in 2008 (WTSA-08), held in South Africa. This event saw the highest level of participation ever for a WTSA, putting the Sector in good shape to tackle the challenges of the coming period, but also giving it a lot of work to do. In order to deal with the challenging programme, the Telecommunication Standardization Bureau (TSB) is being reorganized into a Study Group Department, a Telecommunication Standardization Policy Department and a Services Department.

The mission and objectives of the Telecommunication Development Sector (ITU-D) are primarily

guided by the Strategic Plan for the Union for 2008–2011, but will be adapted according to the outcomes of two major events in 2010: the World Telecommunication Development Conference (WTDC-10) and the Plenipotentiary Conference. Efforts are being made to expand and improve Member States' access to assistance, through such means as better targeting of regional initiatives and a review of how projects are implemented.

ITU Deputy Secretary-General Houlin Zhao described how the General Secretariat will play an essential role in meeting ITU's strategic goals, both in its direct activities and in support of the Sectors. Modernization of management practices will continue, and new accounting standards will be introduced in conformity with the United Nations system. The evolution to fuller use of the six official languages of the Union is another key element in the work of the General Secretariat.

The budget for 2010–2011

"We all want to see a balanced budget, even as we also desire to formulate innovative ways of encouraging and generating more savings to support developmental initiatives particularly to aid developing economies as part of our quest to bridge the digital divide among our nations," commented Mr Iddrisu.

The Council approved a budget of CHF 332 639 000 for the 2010–2011 biennium (comprising CHF 169 271 000 for the 2010 budget year, and CHF 163 368 000 for the 2011 budget year). The budget was prepared on the basis of zero nominal growth in the amount of the contributory unit of Member States. It is set at CHF 318 000, the same as for the 2008–2009 biennium.

For Sector Members, the annual value of the contributory unit for 2010–2011 has been set at CHF 63 600. The contribution for Associates is CHF 10 600 for those participating in the work of ITU-T and ITU-R. In ITU-D, Associates will pay CHF 3975, or CHF 1987.50 for Associates from developing countries.

ITU and the Internet

How best can ITU serve the interests of all its members — as well as the public at large — in issues relating to the Internet? This topic came up at several sessions of the Council. A resolution was adopted covering the role of the Council's *Dedicated Group on identifying Internet-related Public Policy Matters*. Noting the decisions taken at previous ITU Plenipotentiary Conferences, Council meetings and world events, the resolution invites Member States to recognize that the scope of ITU's work in this area covers:

New Council Working Groups

The following groups were established by Council 2009:

- ▶ *Child Online Protection*
- ▶ *For the elaboration of the draft ITU Strategic Plan and Financial Plan for 2012–2015*
- ▶ *To prepare for the World Conference on International Telecommunications 2012*

- ▶ Multilingualization of the Internet, including internationalized (multilingual) domain names
- ▶ International Internet connectivity
- ▶ International public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses
- ▶ The security, safety, continuity, sustainability, and robustness of the Internet
- ▶ Combating cybercrime
- ▶ Dealing effectively with spam
- ▶ Issues pertaining to the use and misuse of the Internet
- ▶ Availability, affordability, reliability and quality of service, especially in the developing world
- ▶ Contributing to capacity building for Internet governance in developing countries
- ▶ Developmental aspects of the Internet
- ▶ Respect for privacy and the protection of personal information and data
- ▶ Protecting children and young people from abuse and exploitation.

The resolution instructs the Secretary-General to provide the necessary support for this work, within existing budgetary resources, and to disseminate appropriate reports to all relevant international organizations and stakeholders actively involved in such matters.

A safer online environment for children

The Council welcomed a contribution on this issue, presented jointly by Egypt and the Syrian Arab Republic. In introducing it, the councillor from Egypt said that protecting children online involves "the future of all our countries," and ITU is the obvious and best body to lead a coordinated global effort to achieve this goal.

Discussions led to adoption of a resolution that emphasizes ITU's commitment to connect the world responsibly, including by promoting cybersecurity and the protection of children online. Under the resolution, the Secretary-General will "liaise with other United Nations agencies and entities concerned with this issue, in order to develop a global repository with useful and updated information, statistics and tools concerning child online protection".

The resolution also instructs the Secretary-General, with the Director of the Telecommunication Development Bureau (BDT), to organize strategic dialogues in which policy-makers, regulators, industry, academia and other stakeholders can contribute their experience and discuss best practice on key issues. In addition, a Council Working Group on Child Online Protection is established, open to all ITU Member States and Sector Members. The group will report to the Council annually on its activities and proposals, as well as to the Plenipotentiary Conference in 2010.

Themes for World Telecommunication and Information Society Day

In 2010, World Telecommunication and Information Society Day (WTISD) on 17 May will be celebrated at the Expo 2010 exhibition in Shanghai, China. The theme of the Expo is "Better City, Better Life". In accordance with this, the Council agreed that the theme of WTISD 2010 will become "Better city, better life with ICT". For WTISD 2011, the Council approved the theme "Better life in rural communities with ICT".



CO₂

Helping to test interoperability

TSB Director Malcolm Johnson reported to the Council that a major concern raised at WTSA-08 was the frequency with which telecommunication equipment appears on the market that does not conform to technical standards or work properly with other equipment. The problem is especially acute in developing countries and economies in transition. WTSA-08 instructed the Director of TSB, in collaboration with the Director of BDT Sami Al Basheer Al Morshid, to find ways to meet this challenge.

"Addressing interoperability is not something new," Mr Johnson said, adding that "it was the very reason for founding ITU". He put forward recommendations, approved by the Council, which will establish a global database to record products declared to be in conformity with ITU-T standards. Also, ITU will organize a series of events at which vendors can verify that their equipment interoperates satisfactorily, and add the results to the database. These measures will give buyers of ICT equipment a much clearer picture of whether it can work with other devices. In addition, TSB will collaborate with BDT on promoting training and the development of regional test centres for developing countries.

Many Council Member States welcomed the planned activities. The councillor from South Africa, for example, stressed that huge quantities of new telecommunication equipment are shipped daily into the markets of developing countries, which are often without adequate means or skills to conduct tests. ITU's initiatives would help support the heavy investments being made by the private and public sectors in the developing world in particular.

ICT and climate change — the road to Copenhagen

ICT has a major role to play in reducing greenhouse-gas emissions in all industrial sectors — and this message needs to be made clear to those negotiating at the conference in Copenhagen in December 2009 that will try to find a successor to the Kyoto Protocol on climate change. Documents on this topic have been submitted by ITU to preparatory meetings ahead of Copenhagen (see article in *ITU News* of October 2009).

The Council passed a resolution saying that addressing climate change is one of ITU's "top priorities". It instructs the Secretary-General and the Directors of the Bureaux:



Dr Touré presented the ITU Silver Medal to Ghana's Minister of Communications Haruna Iddrisu, for his "outstanding leadership" as Chairman of Council 2009

- ▶ to transmit a message to the United Nations Climate Change Conference 2009 highlighting the Council's unanimous decision regarding the important role of telecommunications and ICT in mitigating and adapting to the effects of climate change;
- ▶ to play an active part in preparations for the UN Climate Change Conference, as well as in the conference itself, and provide information on ITU's role and activities in this area;
- ▶ to help develop the Global Framework for Climate Services, requested by the World Climate Conference 3 held by the World Meteorological Organization from 30 August to 4 September 2009 (see *ITU News* of September 2009);
- ▶ to facilitate access to ITU publications of relevance to ICT and climate change.

The resolution invites the representatives of Member States at ITU to liaise with their colleagues responsible for environmental issues, in order to develop common proposals that could be offered for incorporation into a new United Nations agreement at the conference in Copenhagen.

Looking ahead

The next meeting of the ITU Council will take place in Geneva on 13–22 April 2010. This gap of only six months between meetings is to allow for preparations for the Plenipotentiary Conference in 2010 and other important events scheduled for next

year. These were noted in the closing remarks of Dr Touré to the 2009 Council session, as he looked ahead to another busy year for ITU.

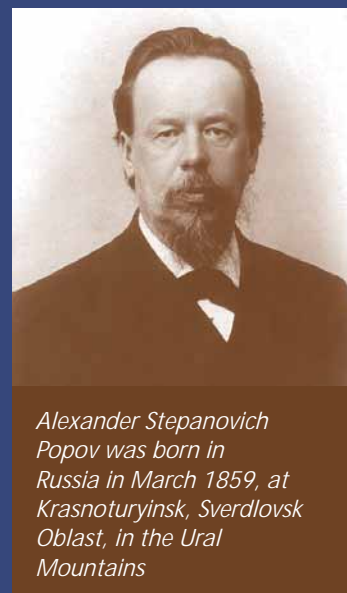
He also praised the achievements of Council 2009 — and the amount of CO₂ emissions that had been saved by using electronic working methods. "Our figures indicate that we reduced paper usage by 766 kilos," Dr Touré said. "This equates to almost one-and-a-half tonnes of greenhouse-gas emissions saved — equivalent to driving a typical family vehicle in the United States for almost four months."

Dr Touré said: "We were honoured to have with us for this Council several ministers, deputy ministers, and ambassadors. We were even more honoured to have as our Chairman, the distinguished Minister of Communications from Ghana, His Excellency Mr Haruna Iddrisu". The Secretary-General then presented the ITU Silver Medal to Mr Iddrisu in recognition of his "outstanding leadership" as Chairman of Council 2009. "You have steered our discussions so smoothly and ably. Your ability to summarize difficult debates and to guide us has been most impressive," Dr Touré stated. This view was echoed by all delegations who took the floor.



ITUW. Martin

Igor O. Shegolev, Minister of Telecommunications and Mass Communication of the Russian Federation (left), and ITU Secretary-General Hamadoun I. Touré signed an agreement on naming an ITU conference room in Popov's honour



Alexander Stepanovich Popov was born in Russia in March 1859, at Krasnoturyinsk, Sverdlovsk Oblast, in the Ural Mountains

Russian radio pioneer Popov honoured by ITU

A plaque was unveiled at ITU headquarters in Geneva on 5 October 2009 to commemorate the work of Russian physicist and radiocommunications pioneer Alexander Stepanovich Popov. Joining ITU Secretary-General Hamadoun I. Touré at the unveiling were Igor O. Shegolev, Minister of Telecommunications and Mass Communication of the Russian Federation, Deputy Minister Naum S. Marder, and Valery N. Bugaenko, Head of the Federal Communications Agency. Also present were many high-ranking officials and distinguished figures from Russian organizations in the field of information and communication technologies (ICT).

The plaque is sited at Conference Room B in ITU's "Tower" building. The room will be named in honour of Popov, in accordance with a Memorandum of Intent signed at the ceremony by Dr Touré and Mr Shegolev, under which the Russian Federation will support refurbishment of the facility and installation of the latest technology.

This year marks 150 years since the birth of Alexander Popov in 1859. "The world is a very different place from what it was when Professor Popov transmitted his first radio waves. The notion of 'wireless' has taken on a whole new meaning," Dr Touré commented. "Today we have 4.6 billion mobile phone subscriptions and over 600 million for mobile broadband — all working wirelessly. This is astonishing progress, and it reinforces my firm belief in the power of ICT to make the world a better place".

The commemorative plaque was unveiled on the same day as the opening of ITU TELECOM WORLD 2009. The presence at that event of many leading Russian speakers and organizations demonstrates the lasting legacy of Popov's work, the Secretary-General said.

Mr Shegolev commented that "it is talented researchers, inventors, and professionals such as Popov who provided the building blocks and established the foundations of our post-industrial information society." The minister said that Popov wanted his work "to

belong to all of humanity. One hundred years later, we still need people like him today.”

Lightning and radio

After first working at St Petersburg University, where he had been a student, in 1883 Popov became a teacher at the Russian Navy's Torpedo School at Kronstadt. Electrical power was being introduced into ships, and he investigated the practical applications of high-frequency currents and the electromagnetic (including radio) waves they produced. In 1894, he finished a device to generate waves, but he could only detect them over a few metres.

At that time, electromagnetic waves were received with a “coherer”. Popov improved the coherer's sensitivity and invented a mechanism to automatically re-set the device. He used this equipment to monitor a serious danger to lives at sea and on land: lightning. By attaching an antenna to one end of the coherer and grounding the other, he detected electrical discharges in the atmosphere many kilometres away. It was the first time that such an antenna had been used to receive radio waves.



The radio receiver developed by Popov

Popov demonstrated his invention to the Russian Physical and Chemical Society on 7 May 1895, and it was later set up at a meteorological observatory. At a meeting of the Society at St Petersburg University in March 1896, Popov showed how his work could be used in general for sending and receiving information by radio. Signals were sent between buildings some 245 metres apart on the university campus, transmitting the words “Heinrich Hertz” in Morse code.

Saving sailors' lives

By 1899, Popov had developed a way to send radio signals to and from ships up to 30 km away. And by January 1900, a 47-km radio link had been established between Hogland Island in the Gulf of Finland and the coastal town of Kotka. Its purpose was to communicate with teams working to release a ship that had run aground on the island. That same winter was probably the first time that radiocommunications were ever used to save lives, when Hogland received a distress call from fishermen stranded on an ice floe. An icebreaking vessel was immediately sent to the rescue and the 50 men were saved.

Popov's radio system earned him a Grand Gold Medal at the Paris International Exposition of 1900. In 1901, he returned to St Petersburg as a professor at the Imperial Institute of Electrical Engineering, and became its director in September 1905. Just a few months later, Popov died at the age of 46. But the date (7 May) upon which he demonstrated equipment that led to practical systems for detecting lightning and sending radio messages is celebrated as “Radio Day” in the Russian Federation. Popov was truly at the heart of the tremendous period of progress in communications.



Official Visits

During October 2009, courtesy visits were made to ITU Secretary-General Hamadoun I. Touré by the following ambassadors to the United Nations Office and other international organizations in Geneva, ministers, and other important guests.



Kenichi Suganuma, Deputy Permanent Representative of Japan



Abdul Hannan, Ambassador of Bangladesh



Ellen Serwaa Nee-Whang, Ambassador of Ghana



Jacques Pellet, Deputy Permanent Representative of France



Omar Hilale, Ambassador of Morocco



Parvan Russinov, Deputy Minister of Transport, Information Technology and Communications, Bulgaria



P.J. Thomas, Secretary, Department of Telecommunications, Ministry of Communications and Information Technology, and Chairman of the Telecom Commission, India



Jeremiah C. Sulunteh, Minister and Postmaster General, Ministry of Posts and Telecommunications, Liberia



Sejdi Qerimaj, Ambassador of Albania

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