INTERNATIONAL TELECOMMUNICATION UNION

No. 4 — May 2013

ITU NEWS

itunews.itu.int

Improving road safety

Three laureates honoured for their leadership

WSIS Forum 2013 reviews progress

Enabling Reliable
Communication Everywhere

Tomorrow's Communications Designed Today

- Network Planning and Design (TETRA, Smart Metering, etc.)
- In-Building and Special Coverage Planning
- Radio Coverage Measurements
- Network Planning and Optimization Software

LS telcom

www.LStelcom.com

Three laureates honoured for their leadership

Dr Hamadoun I. Touré, ITU Secretary-General

Each year, ITU celebrates World Telecommunication and Information Society Day on 17 May to mark its founding in 1865. The event includes designating laureates of the World Telecommunication and Information Society Award. This year's theme "ICTs and Improving Road Safety" is in line with the United Nations Decade of Action for Road Safety, which dedicates the period 2011–2020 to improving global road safety.

I was very pleased to present this year's award to three laureates from government, industry and civil society in recognition of their leadership and dedication to promoting information and communication technologies as a means of improving road safety.

For government, the award went to **Ueli Maurer, President of the Swiss Confederation,** who was represented at the ceremony by Ambassador Alexandre Fasel, Permanent Representative of Switzerland to the Office of the United Nations and other international organizations in Geneva. Switzerland is a country known for its innovation and its precision engineering. This tradition has made Switzerland among the safest countries for road users in the world. In the 2001–2010 decade, Switzerland recorded a significant decrease in road traffic mortality. The Swiss Council for Accident Prevention has been actively involved with ITU in developing standards for driver assistance systems and intelligent systems for accident prevention in road traffic.

"I was very pleased to present this year's World Telecommunication and Information Society Award to three laureates: Ueli Maurer, President of the Swiss Confederation; Volkmar Denner, Chairman of the Board of Management of Robert Bosch GmbH; and Jean Todt, President of the International Automobile Federation, in recognition of their leadership and dedication to promoting information and communication technologies as a means of improving road safety."

> *"Every year, nearly 1.3 million people die in traffic-related accidents. Beyond road deaths, another estimated 20–50 million people are injured, mainly in developing countries. As a result, governments and individuals suffer around USD 518 billion in global economic loss. That is why it is essential to focus on the role of ICT in improving road safety."*

For industry, the award went to **Volkmar Denner, Chairman of the Board of Management of Robert Bosch,** one of the leading suppliers of automotive components. The company has pioneered innovations in the areas of vehicle safety systems, in-car information and communication systems, as well as driver-assistance and other guidance functions. Many safety functions in vehicles, such as antilock braking system, traction control and electronic stability come from Bosch, whose experts are currently working with ITU on standards to improve both transport efficiency and road safety.

For civil society, the award went to **Jean Todt, President of the International Automobile Federation (FIA),** a world figure and household name in motorsports. Mr Todt has engaged with global road safety on a professional and personal level, making it a priority of FIA. In support of the United Nations Decade of Action, and under the banner of the FIA Action for Road Safety, Mr Todt has tirelessly lobbied leaders and decision-makers around the world, urging them to commit to tangible, affordable and verifiable measures aimed at reducing road deaths and injuries. Mr Todt is also President of the eSafetyAware campaign, which focuses on promoting smart vehicles and new safety technologies.

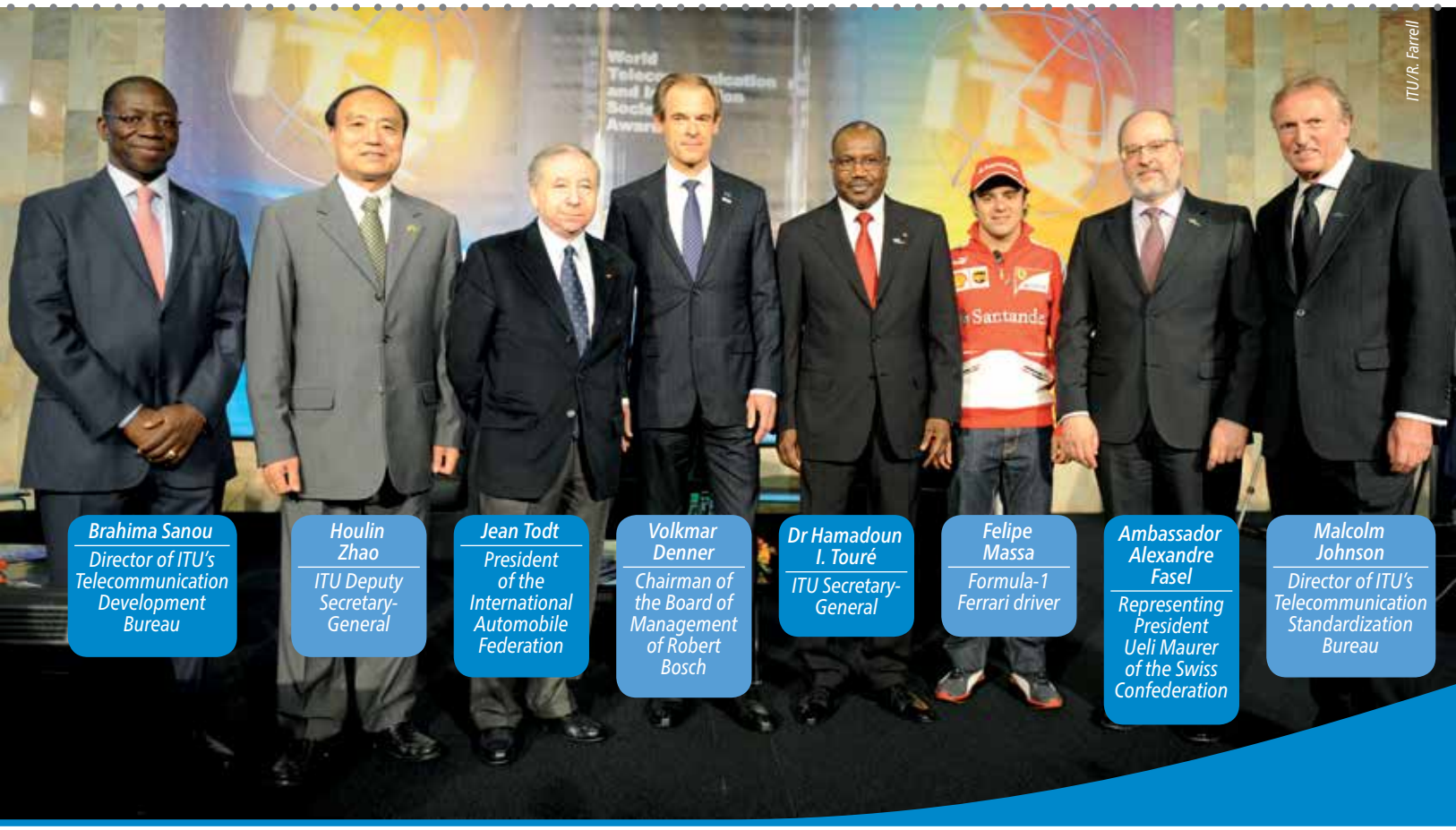
Road traffic safety is a global concern for public health and injury prevention. Every year, nearly 1.3 million people die in traffic-related accidents. Beyond road deaths, another estimated 20–50 million people are injured, mainly in developing countries. As a result, governments and individuals suffer around USD 518 billion annually in global economic losses. That is why it is essential to focus on the role of information and communication technologies in improving road safety. These technologies play a catalytic role in creating opportunities for people in every walk of life — but we must use them responsibly, especially while driving in order to avoid accidents and injury.

Driver distraction and road-user behaviour, such as "text messaging" and interfacing with in-vehicle navigation or communication systems while driving, are among the leading contributors to road traffic fatalities and injuries — and now account for more deaths than drunk driving.

My message is clear: Don't be distracted by technology when driving, whether calling from your mobile phone, or setting the navigation system. Sending a text message or tweeting while driving is extremely dangerous and should be avoided at all costs.

I was very pleased to hear the laureates reiterate the message: "Don't text and drive" (see related stories on pages 8–19). This was reinforced by a practical demonstration by Formula-1 Ferrari driver Felipe Massa. More than 10 years ago he entered the Formula-1 arena with Sauber, the Swiss team based near Hinwil, the hometown of President Maurer. And ever since, he has been at the pinnacle of motorsports.

I call on ITU Member States and industry partners to promote the use of safe interfaces and hands-free devices in vehicles, and take action to eliminate technology-related distractions while driving. Along with promoting national policies to encourage the use of ICT in enhancing road safety, we must also promote the development and use of intelligent transport systems. These measures will not only help prevent traffic accidents, but will also improve efficiencies in traffic management as a means of combating the effects of climate change.



"ITU has been leading worldwide efforts in developing state-of-the-art ICT standards for intelligent transport systems and driver safety that use a combination of computers, communications, positioning and automation technologies, including in-car radars, for collision avoidance."

ITU has been developing standards for safe user interfaces and communication systems in vehicles, designed to optimize driving performance by eliminating unsafe technology-related distractions. ITU has also been leading worldwide efforts in developing state-of-the-art ICT standards for intelligent transport systems and driver safety that use a combination of computers, communications, positioning and automation technologies, including in-car radars, for collision avoidance. I am also pleased to note that the allocation of harmonized, globally available frequency ranges for automotive radar applications is on the agenda of ITU's World Radiocommunication Conference in 2015 (WRC-15).

ITU will continue to work with the automotive sector and automobile associations worldwide — under the FIA banner — to take forward the theme of using ICT to improve road safety in order to meet one of the most urgent global challenges of our times.

Getty Images

ISSN 1020–4148
itunews.itu.int
10 issues per year

Editor-in-Chief: Patricia Lusweti
Art Editor: Christine Vanoli
Editorial Assistant: Angela Smith
Circulation Assistant: Zahra Shahna Ekman

Printed in Geneva by the ITU Printing and Dispatch Division.

Editorial office/Advertising information:
Tel.: +41 22 730 5234/6303
Fax: +41 22 730 5935
E-mail: itunews@itu.int

Mailing address:
International Telecommunication Union
Place des Nations
CH–1211 Geneva 20 (Switzerland)

Subscriptions:
Tel.: +41 22 730 6303
Fax: +41 22 730 5935
E-mail: itunews@itu.int

Improving road safety

Laureates of the World Telecommunication and Information Society Day

Features

Contents

WSIS Forum 2013

Decade of action for road safety: 2011–2020

How technology can help

United Nations Secretary-General Ban Ki-moon


UN Photo/Eskinder Debebe

Welcoming the focus on road safety for World Telecommunication and Information Society Day 2013, United Nations Secretary-General Ban Ki-moon said in a video message to participants in the ITU Award ceremony that road accidents kill nearly 1.3 million people every year and leave millions more injured or permanently disabled, placing a heavy economic burden on families and countries.

> *"The United Nations Decade of Action for Road Safety from 2011 to 2020 is dedicated to helping to make roads and vehicles safer worldwide. Information and communication technologies provide many options. Intelligent transport systems and navigation devices can help reduce congestion. Radars can help to prevent collisions with other road users — including pedestrians."*

"The United Nations Decade of Action for Road Safety from 2011 to 2020 is dedicated to helping to make roads and vehicles safer worldwide. Information and communication technologies provide many options. Intelligent transport systems and navigation devices can help reduce congestion. Radars can help to prevent collisions with other road users — including pedestrians", he said. He noted that "Hands-free communications mean fewer accidents, especially among young people who account for more than half of road deaths."

Mr Ban then commended ITU for its work with industry to develop ICT standards, and for collaborating with the International Automobile Federation to create awareness of road safety, stressing that the best use of technology could save millions of lives.

Meet the laureates

ITU Award goes to President Ueli Maurer of Switzerland, Volkmar Denner, Chairman of the Board of Management of Robert Bosch and Jean Todt, President of the International Automobile Federation

Ueli Maurer | Volkmar Denner | Jean Todt

Getty Images

Ueli Maurer

Ueli Maurer, President of the Swiss Confederation hails from Hinwil, where his political career began in 1978 with his election as member of the Communal Council. Hinwil is a centre of the Swiss motorsports industry and is home to the Sauber Formula 1 racing team.

Mr Maurer has shown personal commitment to sports, health, social security and civil protection. In 2008, he was elected as a member of the Federal Council and has been in charge of the Federal Department of Defence, Civil Protection and Sport. From 1995 to 2003, he was a member of the Environment, Spatial Planning and Energy Committee. After 2003, he was engaged as member of the Finance Committee, and after 2007, as member of the Social Security and Health Committee. From 1996 to 2008, he was Chairman of the Swiss People's Party.

Switzerland

Switzerland is among the safest countries for road users in the world and recorded a significant decrease in road traffic mortality in the period 2001–2010. The Swiss Council for Accident Prevention has been actively involved with ITU in developing standards for driver assistance systems and intelligent systems for accident prevention in road traffic.

Switzerland's programme to reduce road deaths

Ambassador Alexandre Fasel

Representing President Ueli Maurer of the Swiss Confederation

President Ueli Maurer of the Swiss Confederation, a winner of the World Telecommunication and Information Society Award 2013, was represented at the award ceremony at ITU headquarters on 17 May by Ambassador Alexandre Fasel, Permanent Representative of Switzerland to the Office of the United Nations and other international organizations in Geneva.

Speaking on behalf of Mr Maurer, Ambassador Fasel conveyed the President's thanks for the award conferred on him — an award, which he said, also honours Switzerland as a whole. He recalled that the period 2011–2020 had

"Information and communication technologies are now heralding the emergence of innovative solutions in the area of road safety which were unimaginable not very long ago. I am thinking, in particular, of communication between vehicles, between vehicles and infrastructure and also the so-called 'intelligent' car, which can drive itself entirely safely, and which manufacturers tell us could be ready by the end of the decade."

"In Switzerland, road safety has improved over the last 40 years. In 1971 — our darkest year — 1773 people were killed on our roads. This figure has since been cut by 80 per cent. In comparison with other countries, Switzerland comes in a (healthy) seventh position behind the United Kingdom, the Netherlands, Sweden, Norway, Iceland and Denmark."

been declared *Decade of Action for Road Safety* by the United Nations General Assembly and congratulated ITU on having selected the theme "ICTs and Improving Road Safety" to mark this year's World Telecommunication and Information Society Day and paid tribute to the work the Union is accomplishing.

"Information and communication technologies are now heralding the emergence of innovative solutions in the area of road safety which were unimaginable not very long ago. I am thinking, in particular, of communication between vehicles, between vehicles and infrastructure and also the so-called 'intelligent' car, which can drive itself entirely safely, and which manufacturers tell us could be ready by the end of the decade," said Ambassador Fasel. But he also acknowledged that there are instances where the use of ICT may impair road safety. This is the case, for example, when people make telephone calls, consult their smartphones or send each other SMS messages while driving.

Ambassador Fasel then went on to briefly outline the priorities that Swiss authorities are currently pursuing in their road-safety policy. As Switzerland does not produce cars, he focused on how the Swiss authorities plan to effectively apply *intelligent solutions* for road safety, based among other things on ICT.

In Switzerland, road safety has improved over the last 40 years. In 1971 — our darkest year — 1773 people were killed on our roads. This figure has since been cut by 80 per cent. In comparison with other countries, Switzerland comes in a (healthy) seventh position behind the United Kingdom, the Netherlands, Sweden, Norway, Iceland and Denmark.

The "Via Secura" programme

In 2010, the Federal Council set the target of cutting the number of deaths by a further 25 per cent within 10 years, through the "Via Secura" programme, adopting a broader approach than hitherto. "Via Secura" focuses primarily on actions in awareness-raising among the population, road user behaviour

"However amazing the breakthroughs made by ICT in relation to driving-assistance systems, I believe that nothing can replace education, training and awareness-raising for drivers — and pedestrians — to ensure they behave as responsible citizens when on the roads and behind the wheel."

A device equipped with a sensor for testing drunk driving

and safety of vehicles and road infrastructure. The programme does not introduce any new prescriptions. It focuses on more effective application of the rules and standards already in force. In this regard, there are five categories of measures to be implemented in several stages by 2015.

First are preventive measures. Second are measures to ensure more effective enforcement of the existing rules. This will include, for example, allowing repeat drink-driving offenders (as from 2015) to drive only vehicles equipped with an alcohol lock, and prohibiting the supply of commercial or public traffic speed-check detection and warning services.

Third are enforcement measures targeted in particular at reckless drivers, who will be obliged to equip their vehicle with a black box which records data that can then be used by the authorities. Fourth are measures to improve the road infrastructure. And finally, fifth are measures aimed at optimizing road-accident statistics through the introduction of a multipurpose information system. These are the main features of the "Via Secura" programme.

The information society is making it possible for the automobile sector to make immense and fast progress in the area of road safety. As part of this process, States have to be prepared to modernize their road infrastructure to keep up with technological development. Switzerland, for one, has taken up this challenge.

Finally, however amazing the breakthroughs made by ICT in relation to driving-assistance systems, I believe that nothing can replace education, training and awareness-raising for drivers — and pedestrians — to ensure they behave as responsible citizens when on the roads and behind the wheel.

Volkmar Denner

Volkmar Denner is Chairman of the Board of Management of Robert Bosch GmbH. He is also chief technical officer, and has corporate responsibility for research and advance engineering, engineering coordination, corporate strategy and corporate communications. His responsibilities also include the Bosch Software Innovations and Healthcare Telemedicine units.

Mr Denner received his undergraduate degree in physics from the University of Stuttgart in 1981. After a period spent conducting research in the United States, he was awarded a PhD in physics by the University of Stuttgart in 1985.

About Robert Bosch GmbH

Robert Bosch GmbH was among the first signatories of the European Road Safety Charter. Founded in 1886, Bosch is a multinational engineering and electronics company headquartered near Stuttgart, Germany. It is one of the leading suppliers of automotive components, including fuel-injection systems for internal combustion engines. Bosch is also responsible for pioneering innovations in the areas of vehicle safety systems, in-car information and communication systems, as well as driver-assistance and other guidance functions.
For more than 30 years, active safety systems developed by Bosch have significantly contributed to reducing the number of road crashes. The company's innovations include the antilock braking system (ABS), traction control system (TCS), and electronic stability programme (ESP®), all of which intervene before a crash occurs.

Delivering innovative solutions for safer driving

Volkmar Denner

Chairman, Board of Management of Robert Bosch GmbH

Accepting the ITU World Telecommunication and Information Society Award 2013, Volkmar Denner, Chairman of the Board of Management of Robert Bosch GmbH, paid tribute to the more than 5000 Bosch engineers throughout the world working in the field of traffic safety and driver assistance.

Noting that a lot had already been achieved, he gave the example of Germany, where the number of fatalities caused by traffic accidents had declined from 15 000 in 1980 to less than 4000 in 2012. Improved crash

"I share this prestigious award with more than 5000 Bosch engineers throughout the world, who work in the field of traffic safety and driver assistance, and who have accomplished amazing results in making driving safer and less stressful. They are the true champions of road safety."

> *"In Germany, the number of fatalities caused by traffic accidents has declined significantly from 15 000 in 1980 to less than 4000 in 2012."*

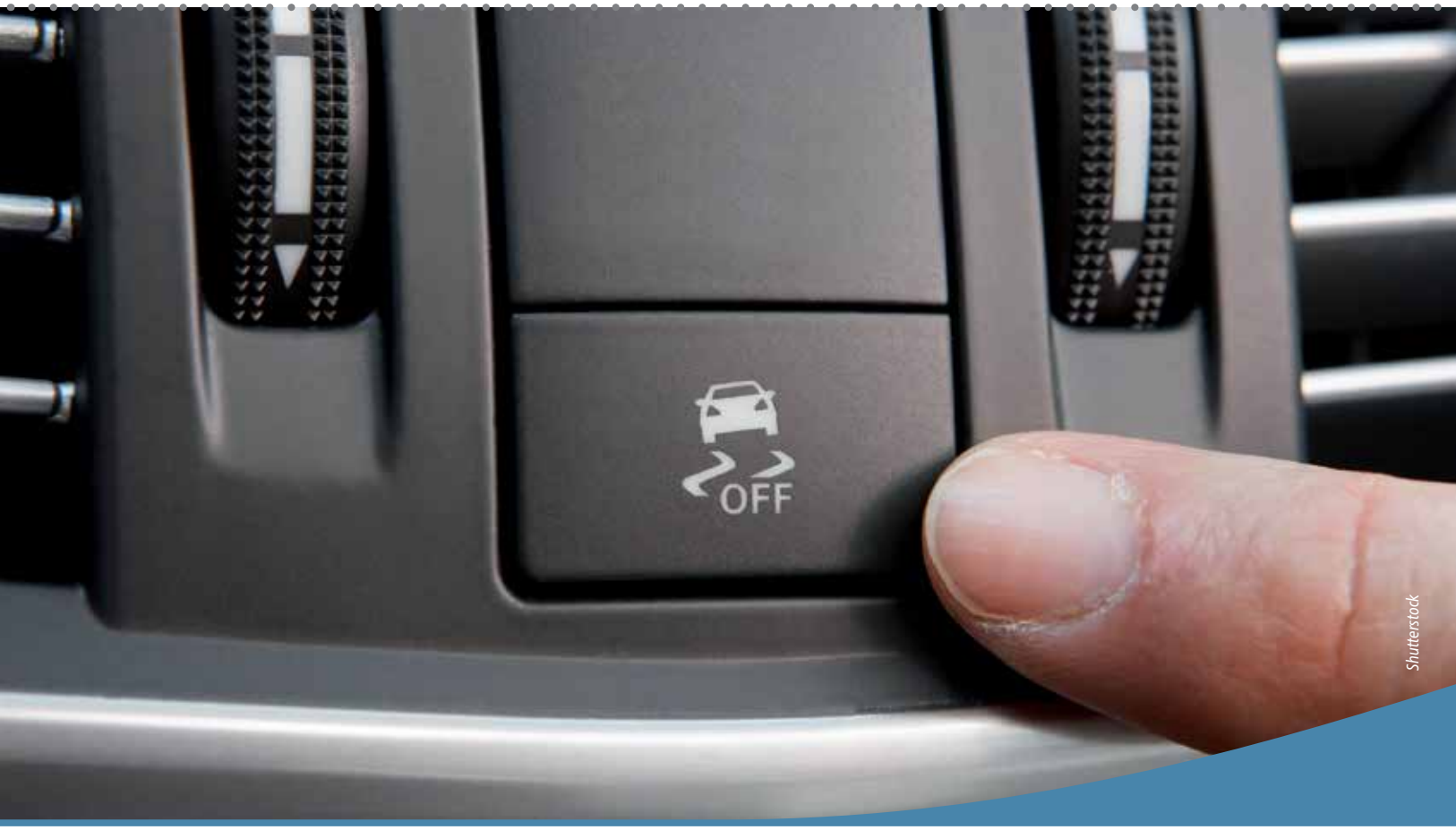
behaviour of vehicles has certainly contributed to this reduction, the more rigid bodywork in particular. Just as certainly, lives have been saved by active and passive safety systems. International studies demonstrate that at least 40 per cent of all fatal traffic accidents are caused by skidding. Electronic stability control could prevent up to 80 per cent of all skidding accidents. Bosch developed the ESP® electronic stability programme and was the first company to put it on the market in 1995. Since then, Bosch has delivered more than 75 million ESP® systems. Today, every second vehicle sold worldwide is equipped with such a system.

Unfortunately however, the worldwide road fatality rate is still rising year by year. "Every life lost is one too many, and Bosch's strategic imperative is 'Invented for life'. All over the world — and this includes the emerging markets in particular — our focus is on systems for environmental protection, energy efficiency, and safety. At the end of the day, our automotive technology engineers are not only working for Bosch and its customers. After all, the two main objectives of their development work — making cars safer and more eco-friendly — are clearly also for the good of society. Reducing the number of road deaths is urgent. We are providing technical solutions for a number of political programmes, whether devised by the European Union, emerging countries, or the United Nations," said Mr Denner.

More powerful safety and driver assistance systems, especially predictive safety systems, are the next technological steps to further improving road safety, according to Mr Denner. Bosch already has a predictive emergency braking system in the market that reacts to preceding cars. The system is based on the company's 77 GHz sensors and works with a cascade of increasing system reaction. First it warns the driver that a crash is imminent. If the driver reacts, it supports the driver by adjusting the brake pressure so that the vehicle stops in front of the target. If the driver does not react, automated braking minimizes collision impact. In a similar way, Bosch plans to bring an automated braking system to the market in 2014 that will protect pedestrians and further help to save lives on our streets.

All these systems depend on information technology. "This is one of the many areas where ITU plays a crucial role for road safety," said Mr Denner, giving the example of predictive safety systems, which rely on high-resolution vehicular radar in order to detect obstacles, pedestrians and other vehicles.

> *"International studies demonstrate that at least 40 per cent of all fatal traffic accidents are caused by skidding. Electronic stability control could prevent up to 80 per cent of all skidding accidents."*



Shutterstock

"The frequency range of 76–81 GHz needs to be allocated for automotive safety-related applications on a primary basis. This important topic is on the agenda of ITU's World Radiocommunication Conference in 2015 and is one of the many areas where Bosch is active as an ITU Sector Member."

"The allocation of harmonized, globally available frequency ranges for automotive radar applications is essential. For obvious reasons, emergency braking systems must not be disturbed by radio-frequency devices operating in the same frequency range. Imagine an emergency braking system being deactivated in a critical situation because of interference caused by, for instance, traffic infrastructure or intrusion detection systems," he explained. In order to avoid this, he considered that the frequency range of 76–81 GHz needs to be allocated for automotive safety-related applications on a primary basis. This important topic is on the agenda of ITU's World Radiocommunication Conference in 2015 and is one of the many areas where Bosch is active as an ITU Sector Member.

Jean Todt

Jean Todt is President of the International Automobile Federation (Fédération Internationale de l'Automobile, FIA). He is well known in the area of motorsports where, under his leadership as CEO of Ferrari, Scuderia Ferrari won 14 Formula-1 World titles — including five consecutive titles with Michael Schumacher — and 106 Grand Prix.

Since his election as President of FIA in October 2009, Mr Todt has made global road safety a priority of the Federation. In April 2009, Mr Todt became President of the "eSafetyAware" campaign.

Jean Todt is also Vice-President of the Foundation known as* Institut du cerveau et de moelle épinière *(Brain and Spine Institute — a research centre which brings together patients, physicians and researchers under one roof for the rapid treatment of lesions affecting the nervous system).

About the International Automobile Federation

FIA is the governing body for world motor sport and the federation of the world's leading motoring organizations. Founded in 1904, with headquarters in Paris, the FIA is a non-profit making association.
It brings together more than 230 national motoring and sporting organizations from over 135 countries on five continents. Its member clubs represent millions of motorists and their families.
FIA will collaborate with ITU over the next seven years to contribute towards achieving the goals of the UN "Decade of Action for Road Safety".


ITU/R. Farrel

Invest more to save lives on our roads

Jean Todt

President of the International Automobile Federation

Accepting the World Telecommunication and Information Society Award, Jean Todt, President of the International Automobile Federation (FIA), commended the work of ITU in the field of information and communication technologies (ICT) and road safety.

Mr Todt pointed out that with an estimated 1.3 million deaths each year, road accidents kill twice as many people as malaria, as many as tuberculosis and almost as many as AIDS. He warned that "If nothing is done, 2 million people will die on the world's roads each year by 2020, which means more than any of these major pandemics. And this does not take

"With an estimated 1.3 million deaths each year, road accidents kill already twice as many people as malaria, as many as tuberculosis and almost as many as AIDS. If nothing is done, 2 million people will die on the world's roads each year by 2020, which means more than any of these major pandemics. And this does not take into account the 50 million people severely injured every year..."

"An estimated 90 per cent of road accidents happen in emerging and developing countries. And we estimate that they already cost to developing countries 100 billion dollars a year, which equals the amount these countries receive in international aid."

into account the 50 million people severely injured every year. This will rise to 80 million by 2020 if no action is taken."

Mr Todt went on to underline that road safety is not only a human issue, but also a challenge for economic development. "An estimated 90 per cent of road accidents happen in emerging and developing countries. And we estimate that they already cost to developing countries 100 billion dollars a year, which equals the amount these countries receive in international aid," he said.

Unfortunately, these dramatic figures are still largely ignored. "Road safety remains widely seen as a national issue, while instead it has become a genuine global challenge. And so the international community must mobilize more purposefully. The United Nations has paved the way by launching, two years ago, the Decade of Action for Road Safety. But we need to go further and we need to go faster. Road safety must be given the place it deserves on the international agenda: one of major priority," said Mr Todt, suggesting that road safety should be integrated into the post-2015 Sustainable Development Goals that will follow on from the Millennium Development Goals.

He stressed the need to find additional resources to battle against road accidents, which he categorized as one of the greatest — and one of the fastest growing — problems of our time. "The international community rightly spends billions of dollars to take up major issues such as the environment, pandemics, food crisis, and so on. But still, far too little money is pledged by the international community for this battle — in no way less vital. This must change." His strong belief that ICT can make an incredible difference in road safety was based on improved vehicle safety over the past 10–15 years, thanks to enhanced crash test standards, crumple zones, air bags and so on.

"Now a new generation of safety systems, often based on ICT, can even prevent accidents from happening in the first place. Intelligent vehicle technologies are making cars safer than ever before. Applications such as electronic stability control, warning and

"In the European Union alone, it is estimated that if all cars used electronic stability control, at least 4000 lives a year could be saved and 100 000 injuries avoided. These 4000 lives represent 10 per cent of the 40 000 deaths on European roads every year."


Shutterstock

emergency braking systems, lane support systems, blind spot monitoring, adaptative headlights and of course speed alerts can help avoid thousands and thousands of accidents, and save thousands and thousands of lives", he said. In the European Union alone, it is estimated that if all cars used electronic stability control, at least 4000 lives a year could be saved and 100 000 injuries avoided.

Mr Todt highlighted the problem of the lack of awareness among policy-makers and car users, not only about the possibility of using ICT to improve road safety, but also about the danger of using electronic items — cellphones, smartphones, and so on — behind the wheel. He cited a recent American study showing that texting while driving has now replaced drunk driving as the primary cause of teenage road deaths in the United States. He was pleased that ITU in partnership with FIA would be launching a global campaign specifically about the dangers of texting and driving.

"Raising awareness is a first step, but we also have to imagine ways to make these electronic items as less intrusive as possible. For example, why not work with the phone manufacturers on a 'car mode', the same way we already have a 'fly mode'? This would be a first step for responsible drivers who don't want to be tempted while driving, to decide to not receive calls and not be able to text, for example, while behind the wheel. The next step is also to make progress on man-machine interfaces to make these electronic items as little intrusive as possible. This, as well as surveillance of the drivers' state of attention, are important developments for the future," said Mr Todt.

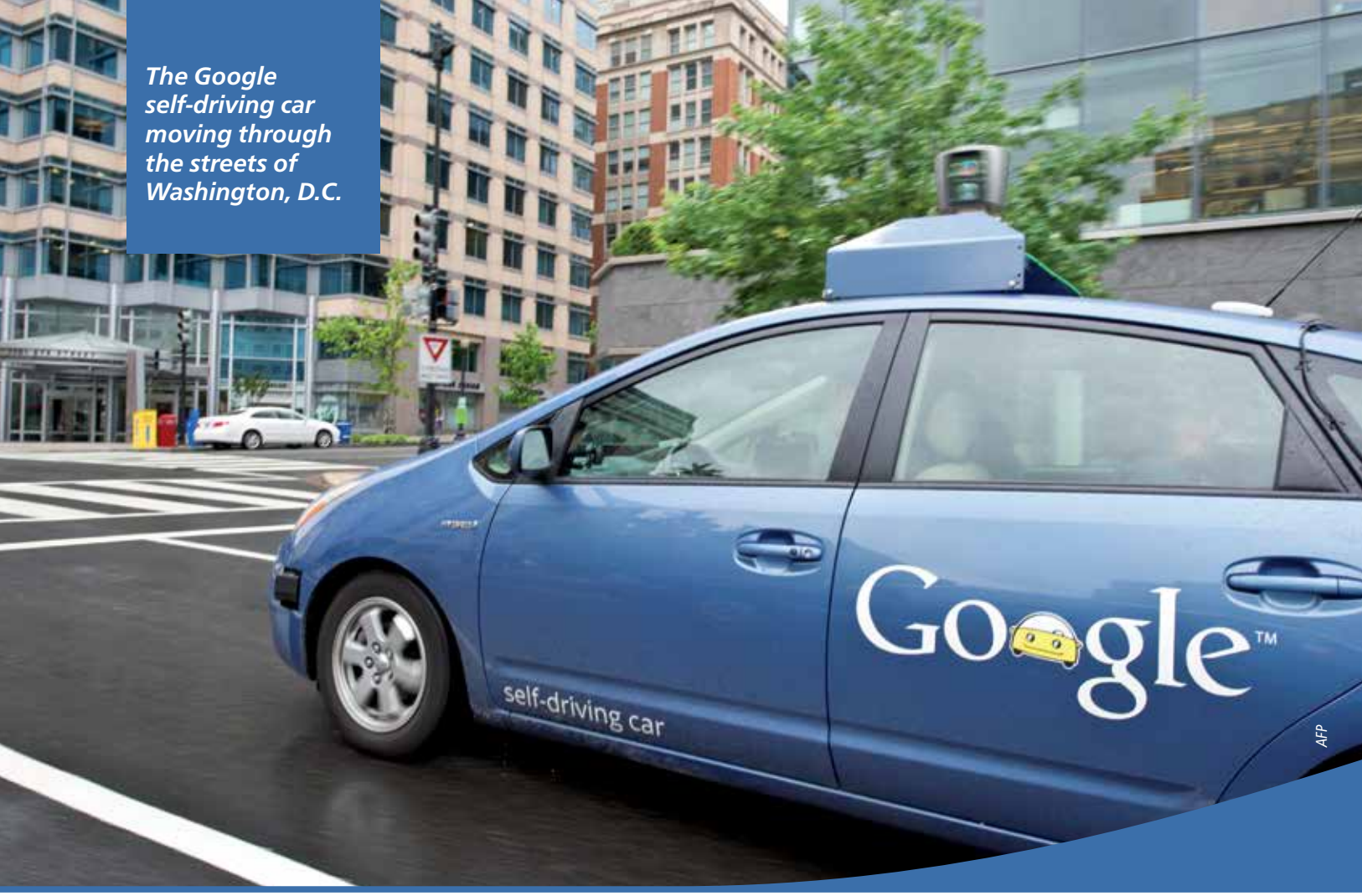
ITU/J.M. Ferré

Felipe Massa demonstrates the dangers of distraction behind the wheel

Felipe Massa, one of the most resilient Formula-1 champion drivers, who drove his 125th Grand Prix for Ferrari on the weekend of 11–12 May 2013 in Barcelona, Spain, finishing in third position, put his foot down in a simulator during the World Telecommunication and Information Society Award 2013 ceremony to demonstrate how on-board distractions and texting while driving can affect even a professional driver.

Mr Massa drives for the Scuderia Ferrari team. In 2002, he entered the Formula-1 arena with Sauber, the Swiss team based near Hinwil. Ever since, he has been at the pinnacle of motorsports. In 2008, he finished second in the Drivers' World Championships. Understanding the positive effect that sports can have and the influence that sports personalities can wield, Mr Massa has become UNICEF's Champion for Brazilian Children. He is also a strong advocate of FIA's Action for Road Safety.

Reiterating the words of all speakers at the ceremony, Monisha Kaltenborn, team principal of the Switzerland-based Sauber Formula-1 team said in a video message: "Safety is paramount for Formula-1. Formula-1 is very safety conscious. It is a trend that has developed over two decades and has led to higher levels of safety even as speeds have increased." Emphasizing that "motorsports is like a high-speed laboratory for car manufacturers that allows us to use sophisticated materials, technologies and processes which finally result in components that are lighter, more compact or more efficient", Ms Kaltenborn said "My message on World Telecommunication and Information Society Day is drive safely. And please don't text while driving."



The Google self-driving car moving through the streets of Washington, D.C.

From assisted to automated driving

What the interaction between the automotive and ICT industries may bring

By Ahmed Khaouja, Director of Competition and Follow-up of Operators, National Telecommunication Regulatory Agency, Morocco

Road safety is a public health priority and a crucial element in the protection of people. Apart from the standard measures to prevent accidents, the use of information and communication technologies (ICT) is needed, more and more, to enhance security. A number of different applications resulting from the interaction between the road safety sector and ICT industries are now in operation or undergoing trials around the world. This ICT – road safety interaction has been a central theme at major ICT congresses in 2013, including those of Las Vegas (United States) and Barcelona (Spain). The long-term goal for researchers and ICT stakeholders at the international level is to develop driverless motor vehicles and ultimately achieve a road accident rate of close to zero.

Current technologies used in vehicles must be regarded as driving or safety "aids" which leave the driver ultimately responsible for piloting the vehicle. In the near future, on the other hand, we may expect to see self-driving cars requiring only minimal human intervention. ICT will become an increasingly important element in car driving systems and will make roads safer.

This is because far more road accidents are caused by human error than by any technical failures. The trend towards ever more sophisticated vehicle control technology should continue if we are to achieve anything close to a zero-accident scenario. Already there have been real experiences in this domain.

The automated vehicle piloting system

In October 2010, the Internet search giant Google announced that it had designed an automated vehicle piloting system which has already been installed in eight different car models which have been driven more than 200 000 km in California (United States) without incident. The project began in 2005 at Stanford University in California's Silicon Valley. The automated pilot system comprises a camera, radars, Global Positioning System (GPS) receiver, drive wheel sensors and a laser remote detection system. The system pilots the vehicle autonomously, processing the data signals it receives during the journey, but allows a human driver to take back control of the car at any time. The cost of installing the test system is around USD 150 000 per car for the equipment alone, according to a 2011 estimate.

One limitation is the system's inability to understand hand signals given by someone directing traffic. As for the legislative aspects, according to the New York Times, regulators and politicians have indicated that new legislation will be required for driverless cars to become a reality. In the United States for example, the State of Nevada, in June 2011, endorsed such legislation, which entered into force on 1 March 2012.

The robot car

In early 2013, researchers at Oxford University in the United Kingdom managed to perfect a tablet controlled vehicle which acts like an aircraft under autopilot system. This type of piloting system is designed for use in heavy traffic and on daily commutes. The "robot car", developed from an electric-powered prototype, is equipped with a camera and lasers, and uses one laser fitted at the front of the vehicle to scan the road 13 times a second. When obstacles are detected, the vehicle slows down or stops. However, in the view of the Oxford-based designers, the technology will not be operational for another 15 years.

The need for spectrum for high-resolution, low-range vehicle radars

The "O1 Business" magazine (Issue No. 2162 of 28 February 2013) reported an interesting trial in Japan. Sompo, in collaboration with an insurance company, has developed "Safety Sight", an application that uses an iPhone as a "co-pilot". The iPhone camera analyses what is going on in front of the driver's vehicle, emitting an audible alert (for example) to prevent a collision if another vehicle comes too close. It is believed that a harmonized, worldwide 79 GHz frequency band will encourage the development of such applications. On the basis of studies being carried out by the ITU Radiocommunication Sector (ITU–R), the World Radiocommunication Conference in 2015 (WRC-15) will consider the allocation of the band 77.5–78 GHz to the radiolocation service to support automotive short-range high-resolution radar operations. Use of these frequencies will enable automobile manufacturers to develop a range of applications that will improve safety in a vehicle's immediate environment.

Shutterstock

Applications of this kind have already been used successfully in the Paris-Dakar Rally, having undergone initial trials in 2004. They provide safety warnings to assist overtaking and can emit a powerful alarm audible at up to 500 metres to warn of an accident or indicate that a vehicle has stopped outside the driver's field of view, as well as setting off auditory and visual warnings in cars close to the scene of an accident.

Efforts are under way to make these systems more widely available as an option for drivers wishing to improve their safety on the road.

At the Barcelona Mobile World Congress in February 2013, Swedish car manufacturer Volvo demonstrated the use of a smartphone to link a car to mobile networks and ascertain the maintenance status, mileage and fuel level, or even adjust the air conditioning. The car can even make an automatic emergency phone call in the event of an accident, using the car's built-in SIM card to send an SMS with details of the car's precise location, in the language of the country in which the accident occurred.

Developing software to facilitate the monitoring and location of the most vulnerable road users

In order to protect the most vulnerable road users such as pedestrians, motorcyclists and cyclists, the National Center for Scientific Research *(Centre National de la Recherche Scientifique)* and the University of Clermont-Ferrand in France are working together on a project to develop software that will facilitate monitoring and location of road users in these categories using data from various sensors. Most of the innovative aspects concern ways of pooling the

sensor data, and the major outcomes are a number of different data processing algorithms. These applications will be of great benefit, given the particular vulnerability of pedestrians, cyclists and motorcyclists, as highlighted by the World Health Organization. These groups account for half of all road accident victims worldwide and up to 80 per cent in developing countries.

Global positioning and video cautioning systems

It is already entirely possible to track a car's movements using various telecommunication networks through constant exchanges of data with a centre that processes data in real time. If an incident occurs the centre can pinpoint the car's location and dispatch emergency services if necessary.

For example, the GPS is already being used to improve road safety: some companies are fitting their vehicles with navigation systems, with the agreement of their employees, to improve passive safety. GPS units installed in vehicles transmit data to software systems at company premises so that a vehicle's location, speed and maintenance status at any given time are known.

Another system being used to improve road safety is the *"video-verbalisation"* ("Video Cautioning") system introduced on 2 April 2013 in Paris (France). Cameras sited at the most hazardous locations record traffic contraventions and photograph offending vehicles with their registration numbers. Reports are then generated and sent to the drivers concerned.

In view of development of these innovative solutions, companies with vehicle fleets must commit themselves to improving road safety by fitting vehicles with navigation systems (GPS), with their employees' agreement, to monitor speed, maintenance status and other parameters and thus improve the passive safety of their vehicles. Companies also need to conduct awareness-raising campaigns to improve familiarity with road safety issues, especially among employees required to travel in the course of their work, since road safety is a major area of occupational accident risk. Insurance companies can also be involved in these awareness-raising programmes.

In addition, telecommunication terminal equipment manufacturers should be encouraged to provide a "car mode" for communications along the lines of the "airplane mode": the system responds to incoming calls with a recorded message ("I am driving at the moment, Please leave a message") and prompts callers to record their message.

A new-generation radar for detecting over speeding

AFP

Future trends for automotive radars: Towards the 79 GHz band

By Davide Brizzolara, Project Support Manager, ERTICO — ITS Europe

Road traffic crashes have become a major global challenge — so the search is on for ways of improving road safety.

Radar-based driver assistance systems are already in use. Up to now, these have largely been comfort functions, such as adaptive cruise control, collision warning systems, blind-spot monitoring, lane-change assistance, rear cross-traffic alerts and back-up parking assistance. These systems obviously also enhance safety to some extent, but technological advances now permit proactive safety features such as collision mitigation systems and vulnerable road user detection.

In order to provide these essential functions for car safety, systems must be able to distinguish more clearly between objects on the road. This requires more bandwidth than the narrowband frequency ranges in the 24 GHz and 76 GHz bands that are used at present.

Wide bandwidth and high power limitation will enable better resolution and better object distinction. These are essential for new functions such as pedestrian detection or autonomous emergency braking in urban areas.

Benefits of the 79 GHz band

Higher frequency radar systems tend to perform better because they are more reliable and more accurate. This has been shown by several studies, including the European Union's More Safety for All by Radar Interference Mitigation (MOSARIM) project (www.mosarim.eu).

Along with a greater capability for distinguishing between objects, the main advantages of the 77 GHz to 81 GHz frequency range (79 GHz band) are that radar devices can be much smaller, a single technology can be used for all applications, and the risk of mutual interference is low because of the smaller emission power required.

Clearer and more accurate pictures

Multiple objects cannot be distinguished if they appear in the same range gate. In such a case, spatial resolution is low, and several objects are fused into one virtual object (see Figure 1). This is what happens currently with the use of narrow bandwidth. The possibility of using a large bandwidth of 4 GHz, available around 79 GHz, allows for high spatial resolution and a much better capability of distinguishing between objects.

A high-resolution system can determine whether a vehicle will crash into an object or there will be a near miss. A low-resolution system will have a higher rate of false alarms and will miss a small object that is in front of a big one (see Figure 2).

Smaller devices and a single technology for all applications

The structure of high frequency circuits and the size of antennas depend directly on the wavelength used. The higher the operational frequency, the smaller the total size of the radar device. The relationship is linear, with the result that a device operating in the 79 GHz band is smaller by a factor of three than a device using the 24 GHz band.

Currently, automotive radar applications use different frequency ranges for different applications. By using a common 76 GHz to 81 GHz technology platform, a holistic and flexible system can be established. This makes development easier, and individual sensors can be used for multiple purposes.

The European Commission's 79 GHz project — an initiative towards a worldwide harmonized frequency allocation

Given the benefits of using the 79 GHz band, there is momentum towards a worldwide harmonized frequency allocation for vehicular radars in the frequency range 77 GHz to 81 GHz. Technological progress and advocacy in countries and regions will pave the way for global agreements in ITU's Radiocommunication Sector and the International Electrotechnical Commission (IEC).

The 79 GHz project founded by the European Commission (www.79ghz.eu) involves specific activities in countries, as well as an expert group — the International Automotive Radio Regulations Expert Group — to speed up global agreement to use the 79 GHz band for vehicular radars.

In 2004, the European Commission legislated on the harmonization of the 79 GHz band for use by short range radar equipment for the European Union member States as well as the European Economic Area (EEA) States (Iceland, Liechtenstein, Switzerland and Norway). In all 27 member States of the European Union, as well as in all the other countries that are members of the European Conference of Postal and Telecommunications Administrations

Figure 1 — Broader bandwidth permits higher spatial resolution

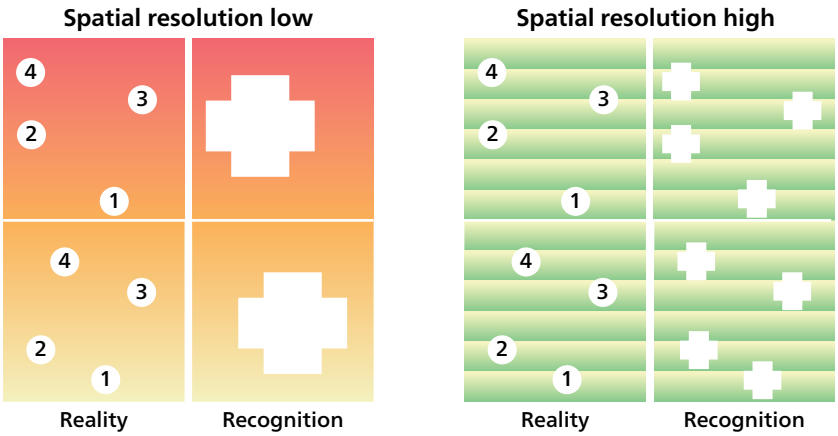


Figure 2 — Crash or near miss? Testing spatial resolution in real conditions

Near miss

Crash

(CEPT), the use of short range vehicular radar operating in the 77 to 81 GHz frequency range is regulated by an ETSI standard (EN 302 264). Vehicular radar equipment transmitting in the 79 GHz band faces neither time constraints nor any other operative restriction burdens, and is thus permitted to operate in the near vicinity of radio astronomy sites (in general, such operation is prohibited).

What other countries are doing

As members of CEPT, Belarus, Georgia, the Russian Federation, Ukraine, Turkey and the Balkan region have approved the use of the 79 GHz band for automotive high-resolution short range radars, with identical provisions as those set by the European Commission and by ETSI standard EN 302 264.

In North America, the United States Federal Communications Commission (FCC) is expected to rule favourably on a petition submitted in May 2012 by Bosch (on behalf of the 79 GHz project) on the use of the 79 GHz band for short range radar in the United States. The Federal Communications Commission would then be expected to release a Notice of Proposed Rule Making, proposing to adopt rules permitting the use of the 77–81 GHz band for automotive radar applications in the United

States on an unlicensed basis. In Canada, a similar proposal has been sent to Industry Canada.

In Latin America, Brazil and Argentina are at a preliminary stage of considering the use of the 79 GHz band for vehicular short range radar.

In the Gulf States, Saudi Arabia and the United Arab Emirates are considering implementing the relevant ETSI standard, while in Oman the 79 GHz band has been allocated since 2009 for vehicular short range radar, with the same power limit as in the ETSI standard.

In the Asia-Pacific region, China currently has no regulation for 79 GHz high resolution vehicular radars, although the Hong Kong region is taking steps in that direction. The Republic of Korea's National Radio Research Agency is preparing to amend legislation to accept 79 GHz. Thailand's National Broadcasting and Telecommunication Commission is expected to consider the matter. The Malaysian Communications and Multimedia Commission is working on an automotive/ultra-wide band spectrum plan to be included in its Standard Radio System Plan. In India, the 79 GHz band is not regulated. In New Zealand, the Radio Spectrum Management is considering adopting the European Union solution.

Singapore was the first country after the European member States and all other CEPT countries to adopt the 79 GHz band for short range radar (it did so in 2007). Regulations for 79 GHz have already been set up in Australia by the Australian Communications and Media Authority. In Japan, the Ministry of Internal Affairs and Communications has established regulations for 79 GHz band high-resolution radar.

Companies investing in 79 GHz technology

Various projects have been undertaken since the European Decision in 2004 to open the 79 GHz band for automotive short range radar. The Radar on Chips for Cars (RoCC) project involves Daimler, BMW, Bosch, Infineon and Continental (with financing from the German government). The RoCC project aims to further advance silicon-based radar technology in the 76–81 GHz band. Its goal is to bring down the cost of 79 GHz automotive radar sensors significantly and make them cost-competitive. The main cost drivers for 79 GHz sensors are the high frequency laminate and millimetre wave chips required for processing, and the micro-processor itself.

In France, research and development work has also been undertaken on 79 GHz ultra-wideband short range radar technology within the framework of three projects (RADAR ACC, ARPOD and RASSUR 79) financed by the French government, complementing work being carried out by PSA Peugeot Citroën Automobile.

A range of companies have made substantial investments in 79 GHz high-resolution radar technology. Among companies involved in the integration of all types of applications (such as pre-crash or blind spot functions), investors include TRW, Bosch, Continental, Denso and MAGNA. Radar suppliers that are investing include Autocruise (TRW), Fujitsu Ten and Hitachi. Radar millimetre wave chip suppliers such as Freescale, Infineon, UMS, ST Microelectronics and TriQuint are also investors. It seems that the 79 GHz technology is almost ready to be validated and that costs can be kept stable.

Taking an advocacy approach, the International Organization of Motor Vehicle Manufacturers (OICA) and the European Association of Automotive Suppliers (CLEPA) have created a joint task group — the Global Automotive Radio Regulations Expert Group — to promote global frequency harmonization for radiocommunication systems used to equip motor vehicles.

This article is based on contributions from the activities of the partners of the European Commission founded 79 GHz project: Robert Bosch GmbH, TRW, ERTICO — ITS Europe, Continental and Renault.

ICT Discovery

journey through our connected world

ICT Discovery, one year old

ICT Discovery, ITU's interactive museum, celebrated its 1st anniversary on 17 May 2013 having attracted 3000 visitors since its official opening a year ago. This is nearly half the number of delegates that come to ITU every year. ICT Discovery is a truly international museum, with 70 per cent of its visitors coming from outside Geneva.

Pierre Maudet, then Mayor of Geneva, in an original NASA spacesuit tours ICT Discovery with Dr Hamadoun I. Touré, ITU Secretary-General during its official opening in May 2012

The creation of ICT Discovery was endorsed by the ITU Council in 2008. And its construction was made possible through the generous support of the founding partner, the Telecommunication Regulatory Authority (TRA) of the United Arab Emirates.

Visitors can see the past, the present and the future of communications. The exhibits highlight the history of information and communication technologies and how they have transformed our lives — from the very beginning of humanity, up to the Internet and the mobile devices we carry around today.

The celebration took place in the presence of Dr Hamadoun I. Touré, ITU Secretary-General; Majed Al Mesmar, TRA's Deputy Director General; Mohamed Ezzeddine Mili, a former ITU Secretary-General, and other distinguished guests.

Expressing ITU's deep gratitude to the Telecommunication Regulatory Authority of the United Arab Emirates for its patronage of this high-tech museum, Dr Touré said: "It is a great pleasure to be able to demonstrate the results of our joint efforts to visitors from around the world. The displays in ICT Discovery provide a snapshot of the interconnected world we live in, and the journey towards instant, global, multimedia communications in the knowledge society of tomorrow. ICT Discovery is a great resource for ITU, for everyone associated with the world of ICT, and for the public at large."

Mr Al Mesmar said: "ICT Discovery is an exciting and distinct initiative of ITU which showcases the proud history of ICT and provides a preview on prospective ICT artefacts. We, at the United Arab Emirates, are delighted and honoured to be associated with ICT Discovery as its sole founding partner."

ICT Discovery provides an excellent outreach and education platform for ITU, educating different target audiences, including the general public. It has become a popular venue, where ITU staff give lectures on current ICT issues to students according to their academic profile and needs. Content is integrated into classroom materials, and college students consult ITU Human Resources Management on careers."

Mr Al Mesmar commented that the growing number of visitors was "very encouraging and inspiring". He described the children's programme and educational outreach as "outstanding initiatives, which will help in raising awareness on ICT".

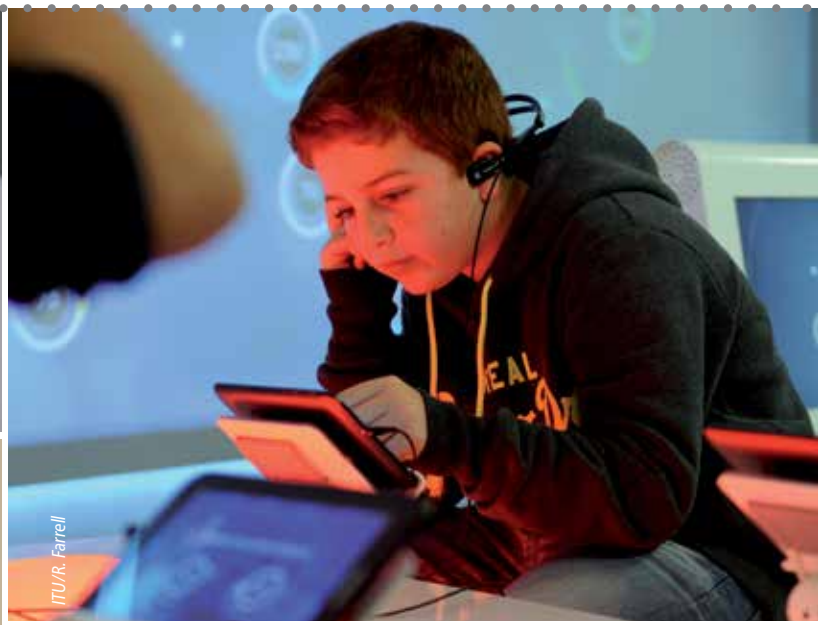
Concluding his remarks, Mr Al Mesmar said: "The ICT Discovery museum is an excellent addition to the city of Geneva, which houses so many wonderful museums. The setting up of temporary exhibitions and partnership programmes with other museums are also helping ICT Discovery to grow further. We wish the management team of ICT Discovery the very best of luck in their future endeavours and pledge to continue supporting ITU in upcoming projects and initiatives."

Majed Al Mesmar, Deputy Director General of the Telecommunications Regulatory Authority (TRA) of the United Arab Emirates, and Dr Hamadoun I. Touré, ITU Secretary-General during the 1st anniversary celebration of ICT Discovery

ICT Discovery

journey through our connected world


ITU/R. Farrell


ITU/R. Farrell


ITU/R. Farrell


ITU/R. Farrell


ITU/R. Farrell


ITU/R. Farrell

WSIS Forum 2013 reviews progress

More than 1800 stakeholders from over 140 countries, representing government, civil society and the private sector took part in the World Summit on the Information Society Forum 2013 (WSIS Forum 2013), hosted by ITU at its headquarters in Geneva from 13 to 17 May. Several high-level representatives, including more than 60 ministers and deputy ministers, ambassadors, chief executive officers of companies, as well as civil society leaders contributed passionately to the event reviewing progress towards the WSIS targets set in Tunis in 2005. This meeting of the WSIS Forum also marks ten years since the first phase of the Summit, held in Geneva in 2003.

WSIS Forum 2013 was organized jointly by ITU, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Conference on Trade and Development (UNCTAD), and the United Nations Development Programme (UNDP). It focused on the future of information and communication technologies (ICT), particularly as an engine of growth.

In more than 150 sessions, participants discussed diverse topics, such as ICT infrastructure, cybersecurity, enabling environment, e-learning, e-health, e-agriculture, media, accessibility, and ethics. High-level dialogues with government ministers and representatives from business and civil society examined women's empowerment in the information society, smart climate change monitoring, ICT innovation and standards (see related story on pages 37–39), securing cyberspace in a borderless world, and youth and ICT. These debates helped participants to identify post-2015 goals for ICT.

Kicking off the opening ceremony, ITU Secretary-General Dr Hamadoun I. Touré said, "This year's WSIS Forum is a unique

opportunity to develop multistakeholder consensus on what is needed for the WSIS process in the future, to ensure that the bottom-up approach of this process is preserved and that the decisions concerning modalities also respect the real requirements of the use of ICT for socio-economic development, while ensuring growth in the ICT ecosystem itself."

Francis Gurry, Director General of the World Intellectual Property Organization (WIPO) described how the advent of the "digital society" has fundamentally transformed our lives bringing new challenges and opportunities that require a central role for intellectual property. Creative works are freely available to anyone, as the cost of reproduction is minimal. In this context, intellectual property serves to balance the interests of individuals, producers and society, and is a means of giving value to a producer's work. WSIS is an opportunity to discuss these challenging questions.

Janis Karklins, Assistant Director-General for UNESCO's Communication and Information Sector, reported on how the organization has been working on the WSIS review process. In February 2013, UNESCO hosted a review meeting in Paris under the theme Towards Knowledge Societies for Peace and Sustainable Development. Mr Karklins affirmed UNESCO's belief in freedom of expression, online and offline, and encouraged stakeholders to promote this principle. He announced that on 1 July 2013, UNESCO will demonstrate its principles by making all publications available in open format. This will mean freedom to access, download, translate and adapt UNESCO publications and data free of charge.

Anne Miroux, Director of UNCTAD's Division on Technology and Logistics, described WSIS as an attractive platform for enhancing the development gains from ICT. She underlined that UNCTAD greatly values its cooperation with ITU in specific fields such as measuring ICT for development and cyberlegislation. "There is today wider scope than ever for securing an inclusive information society. However, we should keep in mind that realizing this ambitious objective requires more than affordable access to infrastructure and services. More attention needs to be given to the development of local capabilities and skills, local content and adequate laws and regulations for the ICT potential to be captured in full," Ms Miroux said.

In 2012, UNCTAD sought to contribute new insights into how developing countries can strengthen their domestic capabilities in the ICT sector. In its Information Economy Report 2012, UNCTAD called upon governments in developing countries to give attention to domestic software production. "As you know, software is embedded in an expanding range of goods and services, making it increasingly important for developing countries to have the necessary capabilities to adopt, adapt and develop software," Ms Miroux explained, adding that meanwhile, the evolving ICT landscape is making it easier for programmers in low-income countries to generate an income from software development projects.

In her view: "There is room for developing countries to make better use of their software potential. Governments can take active part in fostering software capabilities and in strengthening their national software systems. But they should harness the views and experience of other actors, including the software industry, universities, software developer communities as well as users."

Adama Samassékou, President of the International Council for Philosophy and Humanistic Studies, President of Maaya World Network for Linguistic Diversity, and former President of the WSIS Preparatory Committee for Geneva (2003), asked how we can speed up the attainment of current goals while guaranteeing cultural-linguistic diversity. He reminded participants that we are still a long way from a world of technology for all, particularly in Africa. The success of future initiatives will depend on States implementing policies. While language is important for the Millennium Development Goals, opening up to cultural diversity is an even greater challenge. Stressing that open source software and inclusiveness should be at the centre of the debate today, he encouraged delegates to instil new meaning into the Geneva Plan of Action.

John Davies, General Manager of the Intel World Ahead Program, Intel Corporation, encouraged the private sector to get involved with organizations such as ITU and UNESCO, as they are spearheading many important programmes. He said that everyone benefits from an event such as WSIS because of the wealth of experience,

Former United Nations Secretary-General Kofi Annan in a webinar during WSIS Forum 2013

knowledge and best practice that can be shared. He urged ministers, ambassadors, and country leaders to be demanding of the ICT industry, pushing it to excellence. The industry, he said, will benefit from that pressure and, in turn, will help the public sector reach its goals.

Dr Salim Sultan Al Ruzaiqi, Chief Executive Officer of Oman's Information Technology Authority (ITA), highlighted efforts that have led to the current high levels of ICT access in the Sultanate. In order for citizens to enjoy the benefits of ICT, governments must first take action to provide services online. Having mastery of ICT is a cornerstone of any society in today's world. In this context, WSIS represents an extraordinary opportunity to exchange knowledge, and consolidate goals.

Majed Al Mesmar Deputy Director General of the Telecommunications Regulatory Authority (TRA) of the United Arab Emirates described how his country had worked hard to implement the WSIS 2003 and 2005 outcomes paving the way to a digital world, where anyone, anywhere can have access to knowledge. "We are truly witnessing a revolution in the way information is generated, shared and utilized. This digital process has completely transformed the relationships we have with our governments, our businesses and essentially with one another," he said.

In a webinar, former United Nations Secretary-General Kofi Annan addressed the WSIS process beyond 2015, as well as his engagement with young people to inspire them to contribute to the post-2015 development frameworks currently being negotiated.

The United Nations Group on the Information Society (UNGIS) issued a joint statement on the Post-2015 Development Agenda (see related story on pages 42–44), and a high-level session — attended by more than 50 government ministers from around the world as well as industry executives — discussed emerging trends and innovation in the ICT ecosystem.

The Forum programme was enhanced through the strategic partnership and contribution of the Sultanate of Oman and the Intel Corporation. Contributions for specific activities also came from Azerbaijan, Kazakhstan, Kuwait, Mexico, Poland, Rwanda, Saudi Arabia, Tanzania and Hewlett-Packard. The United Arab Emirates is the WSIS+10 Visioning Partner.

Houlin Zhao
ITU Deputy Secretary-General

Adama Samassékou
President of the WSIS Preparatory Committee (Geneva, 2003)

Janis Karklins
President of the WSIS Preparatory Committee (Tunis, 2005)

Ministerial round table

On 14 May 2013, more than 50 ministers participated in a round table discussion to share their vision on the WSIS review process and WSIS beyond 2015. The meeting was chaired by Houlin Zhao, ITU Deputy Secretary-General, and co-chaired by Adama Samassékou and Janis Karklins, the Presidents, respectively, of the WSIS Preparatory Committees for Geneva (2003) and Tunis (2005).

Participants reaffirmed their support for the WSIS process as a multistakeholder platform to pursue a common vision of a people-centric, inclusive information society. Ministers stressed that without in-depth evaluation and review it will not be possible to set clear objectives for the next decade. They saw the need for a change in mind-set in order to turn words into action in the coming years.

Ministers recognized that the WSIS process has spurred the development of the information society worldwide and achieved good results so far. They felt that WSIS has provided a pertinent platform for learning and sharing, making it possible to replicate success stories and avoid reinventing the wheel.

WSIS provides an effective coordination mechanism at the global level, and participants considered that it should continue to do so beyond 2015. Noting the complexity of the WSIS process, participants called for better coordination, looking to ITU and the United Nations Educational, Scientific and Cultural Organization (UNESCO) to play an important role in future in that respect.

Ministers reported on the achievements and challenges in their countries, highlighting successes such as the Connect a School, Connect a Community initiative, which should be further replicated.

Thinking about the way forward, participants said that it would be important to link the WSIS+10 Review process with the Post-2015 Development Agenda (the follow-up to the United Nations Millennium Development Goals). According to ministers, focusing on development is the way to accelerate implementation of the WSIS objectives, but a lot of work remains to be done to transit from an information society to a knowledge society. Proper planning and benchmarking will be crucial to future success.

Among the challenges facing the next phase of WSIS, participants identified ensuring the affordability — for all — of information and communication technology (ICT) terminals and devices, and the accessibility of services. Ministers also noted the challenges of rolling out ICT infrastructure including broadband, creating local content, building capacity though e-learning and investment in education, and fostering innovation and entrepreneurship. Recognizing the use of ICT for economic integration, they stressed the importance of ensuring good governance, promoting the well-being of all people, and preserving culture and ecology. In an environment where cloud computing is becoming the norm, ministers highlighted the need for progress in cybersecurity and in ways of dealing with spam.

Along with the support of ICT policy and regulatory frameworks, there is a role for international multi-stakeholder cooperation, as well as public-private partnerships, in accelerating the implementation of WSIS goals.

Regional meetings relating to the WSIS+10 process have recently been held in Moldova, Cambodia, Uruguay and Tunisia. Further relevant meetings to be held in 2013 include the Global Symposium for Regulators (Poland), Connect Asia-Pacific Summit and Telecom World 2013 (Thailand), the Global Youth Summit (Costa Rica), and will be followed in 2014 by the World Telecommunication Development Conference and the High-Level Event on WSIS+10, to be held in Sharm el-Sheikh, Egypt.

High-Level Dialogue on ICT Innovation and Standards

The discussion

How is the innovation process in developing countries different from developed countries? What are the key ingredients for establishing a climate that is conducive to sustaining ICT innovations? Is there a link between ICT standards, patents and innovations? What are the specific challenges facing emerging economies in sustaining ICT innovations? These were some of the questions addressed by the High-Level Dialogue on ICT Innovation and Standards.

The process of innovation can be divided into two separate stages: the conception stage and the commercialization stage. During the conception stage, ideas are conceived followed by their experimentation, prototyping and validation. Educational systems play a key role in the conception stage, as they provide innovators necessary foundational knowledge. The availability of adequate funding over a long period of time is also essential for the prototyping and validation of ideas. In this respect, governments and funding institutions play an important role in providing long-term funding for innovation projects — particularly those that carry a high-risk of failure but which, if successful, could have a high beneficial impact on society.

The commercialization phase of innovation involves society's adoption of the ideas conceived and validated during the first phase. Widespread adoption of ideas requires business knowledge about returns on investments; start-up culture in which venture capital, angel investors or other seed funding are available; a solid patent protection system; and a legal framework in which start-up companies can be easily set up or dissolved.

An innovation system comprises a network of institutions, rules, and procedures that influence ways in which a country acquires, creates, disseminates and uses knowledge. The actors in the innovation system include universities, public and private research centres, enterprises, consulting firms and policy-makers. The innovation performance of a country largely depends on how these actors relate to each other as elements of a broader system.

Two types of innovation are emerging in developing countries: frugal innovation and reverse innovation. Frugal innovation involves taking innovations originally designed for the developed world and adapting them specifically for low-income market segments. Reverse innovation involves new products developed in emerging markets, which are then modified for sale in developed countries. Frugal innovation reduces the complexity and cost of products and enhances affordable solutions and services. The frugal innovation approach is becoming increasingly popular in emerging markets. But frugal innovations sometimes lack quality and could have implications on patent, copyright and other intellectual property rights.

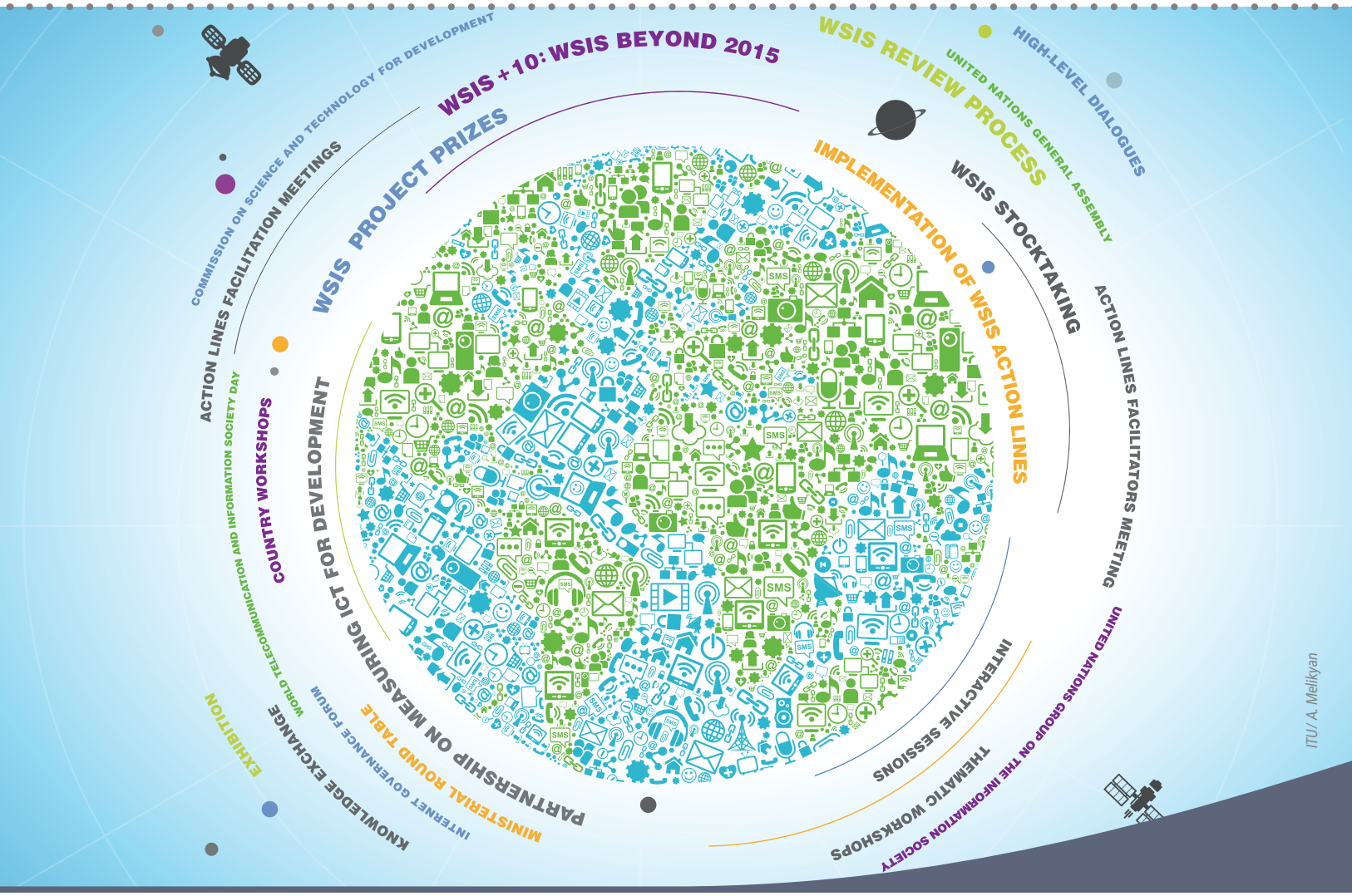
Countries such as Mexico and India identified the need for frugal innovations as a means to bridge the socio-economic divide, particularly through the availability of affordable technology. In Mexico, the government is working towards making public funds more widely available to finance research and development. There is also a focus on finance reform in order to increase the availability of credit to the private sector for use in research and development activities, as well as on telecommunication reform to increase Internet access to all citizens. Finally, there are also programmes to provide ICT training and skills to the population in order to reduce skill gaps and meet market demand. In India, funding is provided for basic and applied research — there is no separate funding for innovation. An adequate innovation ecosystem is needed in developing countries to foster innovation from grassroots level.

Google's concept of innovation is to think outside the box and rethink the existing models. The case of the self-driving car was mentioned as an example to illustrate this. The idea is to build a car without the preconceived conceptions of current transportation systems.

Measuring the impact of ICT innovations is not an easy task because it has implications on other sectors. A lot of research is still going on in this area. One measure is the economic value of patents. Recent analysis shows that many of the world's new technologies are now being produced in Japan, China and the Republic of Korea. In 2012, China filed the same number of international patent applications as Germany. There is a geographic shift of the value of patents from traditional western developed economies to the emerging economies in Asia.

Innovations in developing countries may not always be patented, but it is worthwhile to emphasize their advantages and benefits for citizens. Registering a patent is an expensive and lengthy process. Communication channels between the public sector and academia are needed to facilitate matters. The expense can be broken down into three parts: lawyers' fees, translation costs and government fees.

Standards are important because they define how telecommunication networks operate and interwork and enable people from all over the world to communicate. A patent system creates an incentive for innovators to develop new products for the market. But there is a need to have better databases on linkage between patents and standards.



ITU/ A. Melikyan

Main outcomes

There was consensus that under the leadership of ITU, a manual or textbook should be developed and distributed to serve as a training tool on ICT innovation and standards; better databases should be developed concerning the relationship and linkage between patents and standards, and participation in the ITU–T Focus Group on Bridging the Gap: From Innovations to Standards should be encouraged. These actions should be carried out in collaboration with governments, policy-makers, ICT companies, international, regional and national organizations, academia, and other relevant stakeholders.

Apart from serving as a tool for training, the manual or textbook would provide a greater understanding on the relationship between ICT innovations, intellectual property and standards. It would also raise awareness on innovation and standards among the various stakeholders in the ICT ecosystem, including, in particular, policy-makers at the international, regional and national levels.

The ITU–T Focus Group on Bridging the Gap: From Innovations to Standards provides an initial platform for recognizing and identifying innovations emerging in developing countries that may benefit from standardization. Governments, the private sector, academia and research organizations all have a very important role to play in the innovation ecosystem and participation in the work of this ITU–T Focus Group would pave the way forward in recognizing the innovations happening in emerging economies. The High-Level Dialogue's ideas will be presented to the next meeting of the focus group.

Cybersecurity takes centre stage

ITU develops partnerships with Member States and industry

Cybersecurity took centre stage at WSIS Forum 2013. A high-level dialogue on "Securing cyberspace in a borderless world: Vision 2015 and Beyond" focused on the future strategies and actions needed to harmonize international cooperation.

Citing annual losses of more than USD 100 billion caused by cybercrime, ITU Secretary-General Dr Hamadoun I. Touré said, "In the security business, trust is key, and if we do not start to develop a culture of trust, there will be no way that the cyberworld can ever become truly safe and secure."

Global initiatives within the framework of ITU's Global Cybersecurity Agenda include Child Online Protection and the International Multilateral Partnership Against Cyber Threats (IMPACT). Meeting during WSIS Forum 2013, the ITU-IMPACT partners and the Child Online Protection partners confirmed the commitment in the private sector and among civil society leaders to work together with governments to develop activities and projects.

Ghana seeks to safeguard cyberspace

Ghana's Ministry of Communications has entered into an agreement with ITU on the establishment of a national Computer Incident Response Team, in order to strengthen its ability to prevent and mitigate cybersecurity incidents. The six-month project will provide Ghana with the necessary capacity and technical capabilities to build a national point of contact to respond in an effective manner to cybercrimes and cyberattacks.

"This project demonstrates the commitment of Ghana to unleash the full potential of ICT by ensuring security in cyberspace and building trust and confidence in the use of the Internet," said Minister of Communications Edward Omane Boamah. "This agreement will enable Ghana to join the global network that we are building to secure cyberspace," said Brahima Sanou, Director of ITU's Telecommunication Development Bureau. "Ghana will then become part of the solution, curbing potential cyberthreats that are currently emanating from sources in Africa."

ITU and ABI Research agree to establish a global cybersecurity index

At a facilitation meeting on WSIS Action Line C5 (which accords ITU the responsibility for strengthening cybersecurity), participants recognized the importance of building confidence in the use of ICT in an increasingly networked society and agreed to extend the dialogue beyond the target date of 2015.

An important step was taken when ITU and ABI Research, a market intelligence company specializing in technology, signed an agreement to establish a global cybersecurity index. The aim of the index is to facilitate information sharing on cyberthreats among ITU Member States.

In line with an agreement made in 2011 with Symantec, a network security company, ITU released the Internet Security Threat Report, which presents Symantec data and analysis on the threat landscape and sets new milestones in the fight against cyberthreats. ITU's ongoing commitment to publish Symantec security reports aims to apprise Member States of rising threats in cyberspace, in order to help create a safer and more secure environment for all users — governments and businesses and, most significantly, children and youth.

With the aim of enhancing child online safety, ITU and the Walt Disney Company are joining forces to develop workshops to train trainers during the "Be Safe, Be Smart" track of the Global Youth Summit that will take place on 9-11 September 2013 in San Jose, Costa Rica.

A workshop organized by ITU and the Commonwealth Telecommunications Organisation on the establishment of Child Online Protection national frameworks, emphasized that child protection is not only a matter of safeguarding children's rights but is a core human development component in meeting the Millennium Development Goals. ITU and the Commonwealth Telecommunications Organisation have established Child Online Protection national frameworks in six African Countries: Cameroon, Gambia, Ghana, Mauritius, Nigeria and Sierra Leone.

"Cybersecurity is a borderless issue that requires a global approach and concerted effort," said Mr Sanou. "The WSIS Forum adds value as an enabling platform for international cooperation on ICT for development and for strengthening cybersecurity worldwide."

United Nations Group on the Information Society issues joint statement

ICT must move up the post-2015 development agenda

The 30 agencies that make up the United Nations Group on the Information Society (UNGIS; see box) issued a joint statement in Geneva on 13 May 2013 staking a claim for information and communication technologies (ICT) to play a central role in post-2015 development. According to the agencies, ICT should be the tools with which poverty and inequality are fought in the 21st century.

The UNGIS joint statement — agreed at a meeting held at ITU headquarters, as part of the World Summit on the Information Society — was addressed to the Secretary-General of the United Nations, Ban Ki-Moon, and to the United Nations System Task Team on the Post-2015 Development Agenda.

Millennium shift to ICT

As the UNGIS statement points out, when the Millennium Development Goals (MDGs) were established in 2000, the international community was only just beginning to understand the catalytic potential of ICT to advance development agendas and priorities. By the MDG target date of 2015, it seems that the benefits of mobile services will be available to all, and that an ICT-related target will be achieved. But the potential of ICT as key enablers for inclusive development has yet to be fully acknowledged, harnessed and specifically linked to the achievement of all other MDG targets.

In 2003 and 2005, at the two phases of the World Summit on the Information Society, the international community recognized ICT as enablers for development. World leaders — representing governments, civil society, the private sector and the technical community — set out a strategic framework engaging multi-sectoral stakeholders as partners to promote the deployment and use of ICT.

This framework captures the potential of ICT to enhance access, especially of vulnerable populations, to education, health care, banking and other services. It recognizes that ICT open the door to information and knowledge, and the empowerment of women. The technologies offer ways of protecting the environment, mitigating natural disaster risks, and ensuring sustainable food production.

United Nations Group on the Information Society (UNGIS)

UNGIS was founded in 2006 to coordinate the inclusion of information and communication technologies (ICT) in development plans throughout the United Nations system.
UNGIS members are: FAO, IAEA, ILO, ITU, OECD, UN Women, UNCTAD, UNDESA, UNDP, UNECA, UNECE, UNECLAC, UNESCAP, UNESCO, UNESCWA, UN-Habitat, UNHCR, UNICEF, UNIDO, UNITAR, UNODC, UNRWA, UNWTO, UPU, WB, WFP, WHO, WIPO, WMO and WTO.
For 2013, UNESCO holds the chairmanship of UNGIS, and ITU, UNCTAD, UNDP and UNDESA the vice-chairmanship.

ITU/ A. Melikyan

These uses of ICT are in line with internationally-agreed development goals. In particular, ICT can respond to the desire of the international community — as mentioned in both the Rio+20 Principles and Agenda 21 — for the sustainable use of natural resources.

Thirteen years since the United Nations Millennium Summit and ten years after the first phase of the World Summit on the Information Society, the ICT landscape has changed dramatically. Rapid innovation, diffusion and uptake of mobile technologies, and improved access to the Internet have greatly expanded the gamut of opportunities that ICT offer to promote inclusive development. As demonstrated by the ongoing review of the implementation of the outcomes of the World Summit on the Information Society, international cooperation and multistakeholder collaboration on the strategic use of ICT has produced a wealth of knowledge, experience and expertise. This learning should be harnessed by the United Nations system as it defines a new development agenda for the coming decades.

What we know today

ICT can provide a platform to better integrate and accelerate delivery on all three pillars of sustainable development, namely economic growth, social inclusion and environmental sustainability. ICT in general, and the Internet in particular, can play an important part in ensuring rights-based development. They enable a wider exercise of freedom of expression and press freedom, which in turn are critical to combating corruption, ensuring gender-sensitivity, deepening accountability, and promoting socially inclusive development.

As critical drivers and essential tools for the creation of jobs and the delivery of basic public services, ICT can improve access to knowledge and education. They can empower women, enhance transparency, and give marginalized populations a voice in decision-making processes that directly affect their own lives. ICT can play a transformative role in governance and regional cooperation, as well as in enhancing the technical effectiveness of development work.

For ICT to fulfil their potential requires adequate human capacity, knowledge

management, content development, infrastructure deployment, and an enabling environment.

What needs to be done

UNGIS recommends that the potential of ICT as key enablers of development, and as critical components of innovative development solutions, is fully recognized in the Post-2015 Development Agenda. This means recognizing ICT, including broadband Internet, mobile technologies and relevant ICT applications, as tools that can help empower people, enable wider exercise of human rights including freedom of expression, foster access to information, open up employment opportunities, and expand access to learning, education and basic services.

In collaboration with other stakeholders, the United Nations system should take full advantage of ICT in addressing the development challenges of the 21st century. UNGIS also recommends that the Post-2015 Development Agenda should reflect the lessons learned during the past decade in the implementation of the outcomes of the World Summit on the Information Society. It is important to build on what has been learned about the potential of ICT since the MDGs were established in 2000. In particular, account should be taken of international cooperation and collaboration galvanized by the 2003 and 2005 phases of the World Summit on the Information Society to promote ICT as enablers for development.

Efforts across the United Nations System should be coherent, connected and coordinated to achieve maximum, sustainable impact. UNGIS therefore recommends that work on the Post-2015 Development Agenda should interact with the WSIS+10 Review processes to create synergies.

An offer of assistance

UNGIS stands ready to assist in implementing the recommendations made in its joint statement. UNGIS offers a valuable knowledge and resource base, developed over the past decade on a multistakeholder basis, focusing on innovative tools and approaches to tackle multiple development challenges. This knowledge and resource base can help inform the setting of the Post-2015 Development Agenda.

At international level, UNGIS can provide assistance in the form of expertise, and should engage on a consultative basis with the bodies tasked to shepherd the post-2015 development process.

At country level, UNGIS can make experts available to United Nations Member States, bringing in the experience of the past 10 years to support future development.

In keeping with its mandate, UNGIS is committed to supporting the United Nations community as it frames the Post-2015 Development Agenda. UNGIS is also committed to helping achieve the new set of post-2015 goals by ensuring policy and programme coherence within the United Nations system, and by providing guidance on the ways that ICT can be used to advance development.

Prize-winning projects

On 13 May 2013, ITU Secretary-General Dr Hamadoun I. Touré announced the 18 winners of a global contest that recognized outstanding efforts and achievements in the implementation of the outcomes of the World Summit on the Information Society (WSIS). The 18 categories of the WSIS Project Prizes 2013 are linked to the WSIS Action Lines outlined in the Geneva Plan of Action.

The WSIS Project Prizes contest responds to requests from WSIS stakeholders for an effective mechanism to recognize outstanding success by individuals, governments and civil society, including local, regional and international agencies, research institutions and private-sector companies, in implementing development-oriented strategies that leverage the power of information and communication technologies (ICT). The WSIS Project Prizes are an integral part of the WSIS stocktaking process established in 2004 (www.wsis.org/stocktaking/prizes).

The prize-winning projects in 2013, by category and WSIS Action Line, are described briefly here.

Role of public governance authorities and all stakeholders in the promotion of ICT for development (Action Line C1)

The **Safeer project from Saudi Arabia's Ministry of Higher Education** is an integrated online scholarship programme to advance the educational level, research capabilities, and openness to the world of Saudi Arabian citizens. It gives priority to students with disabilities. A number of governmental agencies — such as the Ministry of the Interior, the Ministry of Education, and the Ministry of Civil Services — collaborated in developing, implementing

and operating the Safeer project to promote an information society. The project reflects the country's commitment to gender equality, social justice, and the education and empowerment of citizens.

Information and communication infrastructure (Action Line C2)

The **Schools Connectivity project from Saudi Arabia's Ministry of Education** aims to connect more than 3000 remote schools (currently unserved by the Internet) via satellite using very small aperture terminal (VSAT) technology. The project will also upgrade connectivity in more than 19 000 schools. All schools in Saudi Arabia will be linked to the Ministry of Education via the Internet, enabling schools to use major centralized services. The Schools Connectivity project is a part of a larger nationwide connectivity project being undertaken by the Ministry of Education.

Access to information and knowledge (Action Line C3)

The **Agricultural Libraries in Jagodina project from Serbia's Radislav Nikcevic Public Library** targets rural communities, transforming village libraries into communication, information and educational hubs. The project also facilitates the sharing of information among farmers. There are now five rural library branches offering Internet access, ICT training, agricultural lectures, and online access to agricultural journals and literature.

Capacity building (Action Line C4)

The **Electronic Information for Libraries Public Library Innovation Programme from Italy** is building community ICT skills in 23 developing countries and countries in transition. More than 7500 people in 23 countries in Africa, Asia, Latin America and Europe have already benefited from ICT training provided in local libraries. Since 2010, the project has been supporting sustainable information access and learning opportunities, enabling disadvantaged people to improve their lives.

Building confidence and security in the use of ICT (Action Line C5)

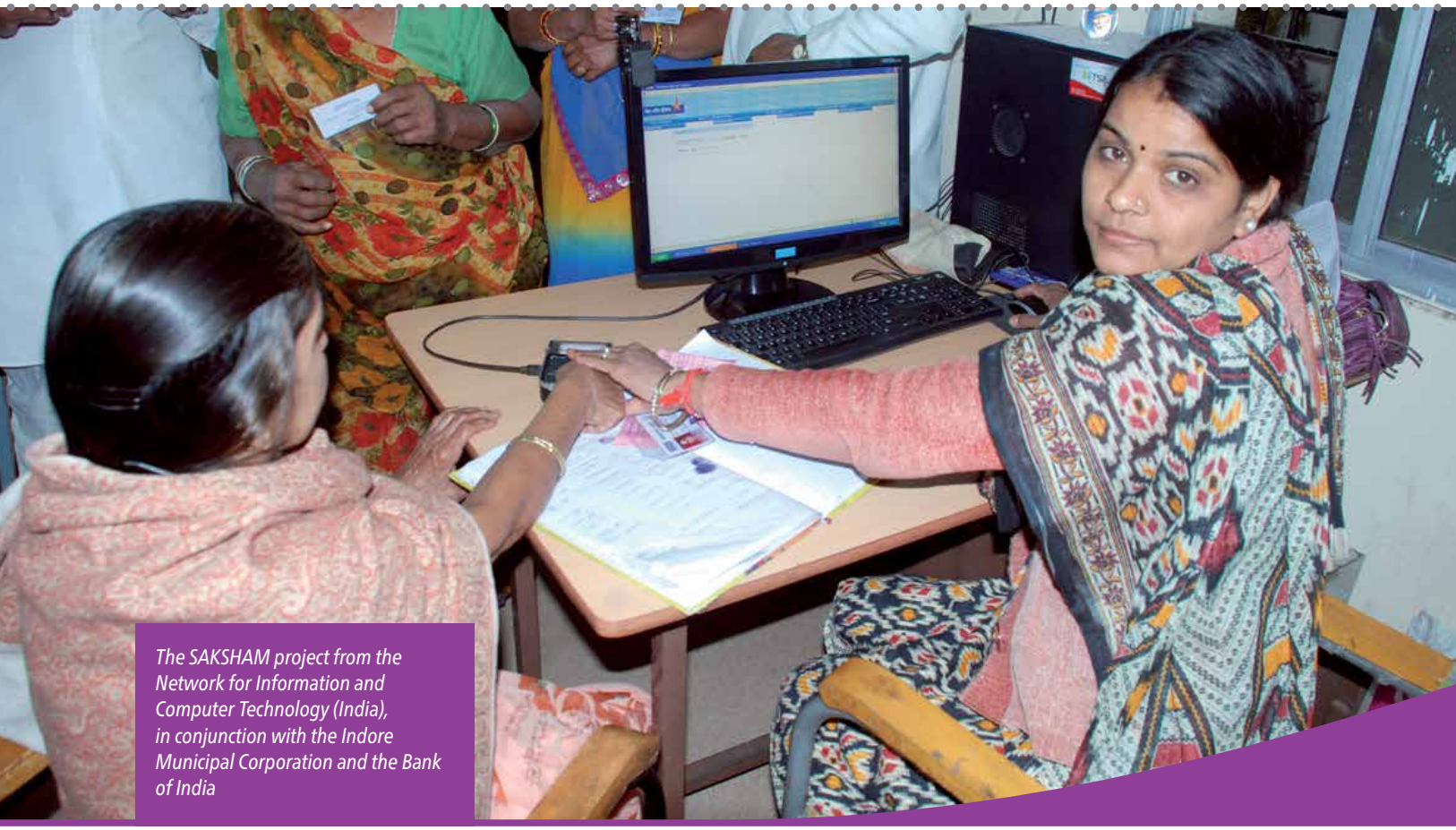
The **Digital Training through Mobile Classrooms project from Ecuador's Ministry of Telecommunications and Information Society** uses buses equipped with state-of-the-art technology to provide all citizens with access to ICT. The buses circulate throughout Ecuador, promoting the use of technological tools and offering training — in particular to children — on the proper use of ICT. This builds confidence and security in the use of ICT. The project is part of a strategy, launched in November 2011, to provide everyone with access to the Internet. By 2015, the project is expected to reach 350 000 citizens.

Enabling environment (Action Line C6)

The **Club Digital project from Mexico's Ministry of Communications and Transportation** promotes entrepreneurship among youth to foster the development of technological innovation. The project offers open online ICT courses free of charge. Cutting-edge content is provided by the Ministry of Communications and Transport and its ICT partners, as well as by entrepreneurship specialists.

E-government (Action Line C7.1)

The **SAKSHAM project from the Network for Information and Computer Technology (India), in conjunction with the Indore Municipal Corporation and the Bank of India,** provides ICT-enabled direct distribution of old age pensions. The system comprises ICT-enabled pension distribution centres in the form of kiosk banks. So far, the project has created a network of kiosk banks at 15 different locations, and trained social entrepreneurs to run the kiosks. This has enabled 13 000 elderly citizens to get their pensions locally, without having to travel far. The project was enabled by new government policies on information technology and banking.



The SAKSHAM project from the Network for Information and Computer Technology (India), in conjunction with the Indore Municipal Corporation and the Bank of India

E-business (Action Line C7.2)

The **E-licence Information System project from Kazakhstan's Ministry of Transport and Communications, National Information Technologies, and Ministry of Regional Development** allows licences and permits to be obtained online. The project simplifies the process for obtaining licences and permits by automatically requesting the necessary data from the information systems of State agencies, which are integrated with the project's information system. Thanks to the single registry of electronic licences, users can obtain information about the status and authenticity of companies' licences and permits. Since 2012, all electronic licences in Kazakhstan have been issued via the E-licence Information System.

E-learning (Action Line C7.3)

The **Training and Connecting Rural People project from the African Forum for the Promotion of New Information and Communication Technologies (Republic of the Congo)** is working to connect the villages of sub-Saharan Africa and to train villagers to use ICT. The project is driven by the need to promote a culture of peace through using ICT as a way towards harmonious social integration. The project educates people on the positive impact of ICT in improving the conditions of life in towns and villages.

E-health (Action Line C7.4)

The **Reduction of Childhood Mortality Rates project, from Oman's Ministry of Health,** provides holistic primary care for pregnant women and young children in order to reduce maternal mortality rates and childhood mortality rates among infants and children under five years of age. Prenatal and postnatal care is available at all medical centres, and mothers give birth at a tertiary hospital. Medical records tracing the patient histories of mothers and children are made available throughout pregnancy, and are integrated into the Childhood Illnesses System. Through this project, Oman has succeeded in reducing the maternal mortality rate from 22 (per 100 000 live births) in 1995 to 13.4 in 2009, and the infant mortality rate from 20 (per 1000 live births) in 1995 to 9.6 in 2009.

E-employment (Action Line C7.5)

The **E-Employment system project from Kuwait's Civil Service Commission** facilitates the process of applying for a job in the governmental sector. This government-to-citizen (G2C) e service allows for the online submission of job applications, the online tracking of applications, and an online SMS notification of the progress of the application through the system.

E-environment (Action Line C7.6)

The **Zero Balance project from Argentina's University of La Punta** involves primary school students in collaborative digital environmental activities to reduce global warming. Children visit every house in their hometowns to find out how much energy is consumed. With the support of their laptop and the application "Efficient House" (www.chicos.edu.ar), they calculate the equivalent amount of carbon dioxide released into the atmosphere. The information is uploaded to the website and the children are able to determine the number and type of trees that need to be planted to capture the equivalent balance of carbon dioxide (CO_2) emissions.

E-agriculture (Action Line C7.7)

The **Web 2.0 and Social Media Learning Opportunities project from the Technical Centre for Agricultural and Rural Cooperation (the Netherlands)** provides five-day training events designed to raise awareness and stimulate adoption of Web 2.0 and social media in the context of development work. The events are held in partnership with national and international development agencies, on a cost-sharing basis. By the end of 2012, approximately 1500 people (of whom 31 per cent were women) had been trained in Benin, Burkina Faso, Cameroon, Ethiopia, Fiji, Ghana, Kenya, Madagascar, Mauritius, Nigeria, Rwanda, South Africa, St Lucia, Tanzania, Gambia, Senegal, Trinidad and Tobago, and Uganda.

E-science (Action Line C7.8)

The **Abu Dhabi Science Festival project from the Abu Dhabi Technology Development Committee (United Arab Emirates)** is a strategic initiative to engage and inspire the nation's youth with exciting science-related hands-on activities. It is part of a wider plan geared towards building a talent base in science, technology and innovation. The 11-day Festival held in 2012 attracted more than 120 000 visitors, an increase of 20 per cent as compared with 2011. Over 20 000 students from 224 schools attended the festival. Collaboration with some of the leading universities in the country, and the recruitment and training of 800 university students as science communicators, were key factors in the festival's success.

Cultural diversity and identity, linguistic diversity and local content (Action Line C8)

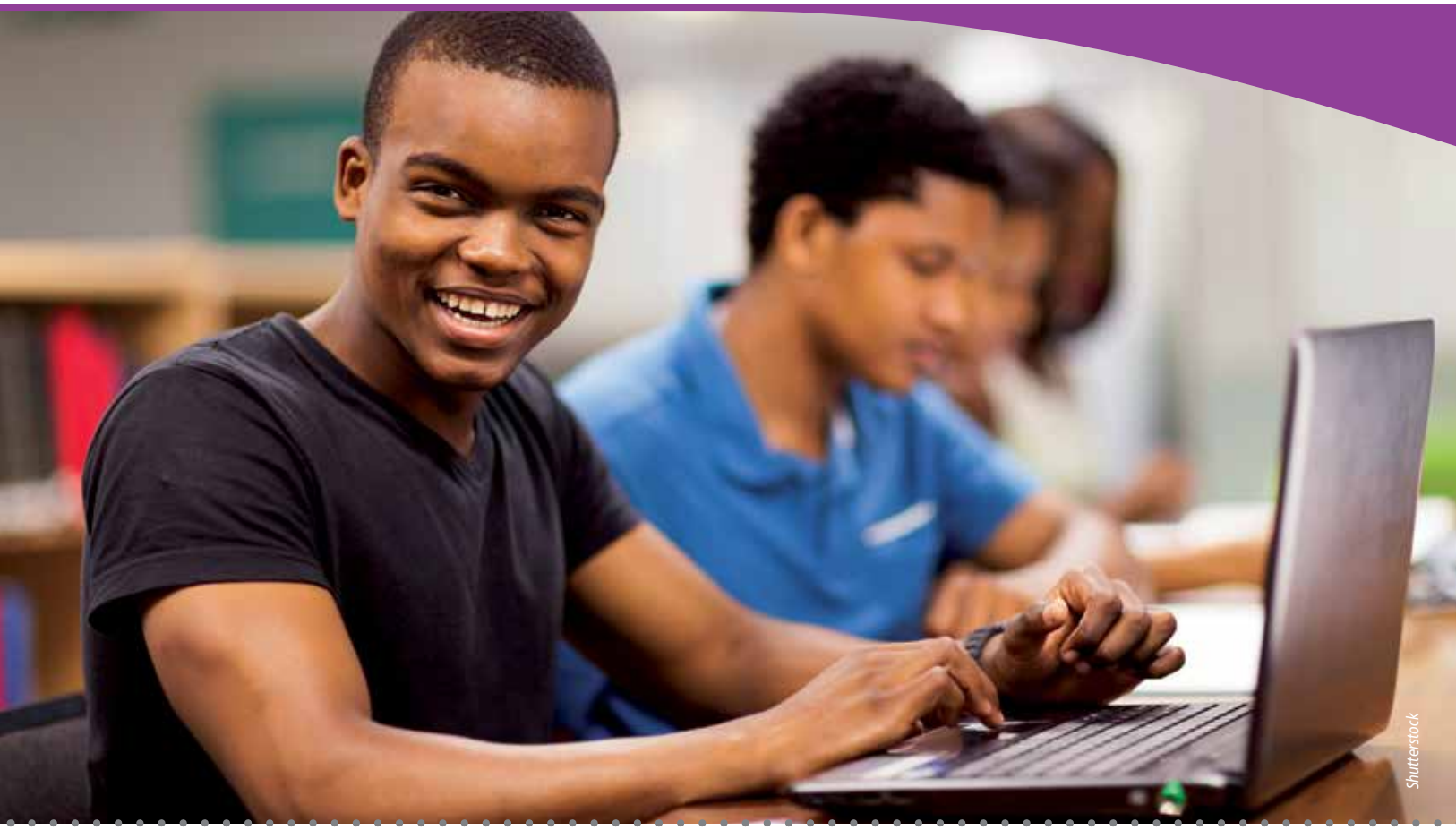
The ***En mi idioma*** **(In my language) project from Colombia's Ministry of Information Technologies and Communications, in cooperation with Colnodo (an association of non-profit non-governmental organizations),** pursues the inclusion of indigenous communities in the technology and knowledge society through the use of ICT. The primary aim of the project is to preserve and promote the dissemination of indigenous Colombian languages and knowledge. Multiple international stakeholders support training in the use of ICT, content generation and information publishing. The active participation and empowerment of indigenous communities is a crucial aspect of the project. This is achieved through universal and equitable access, capacity building and knowledge sharing. The project is currently being implemented in seven indigenous communities in Colombia.

Media (Action Line C9)

The **Africa Digital Media Academy project from Rwanda's Ministry of Youth and ICT and Workforce Development Authority** is a vocational training programme initiated in March 2012 by the Workforce Development Authority and Pixel Corps Ltd. It provides Rwandan students with the skills necessary to work in all areas of the digital media industry. Through live, hands-on learning in the computer lab and production studio, with distance learning from television experts in the United States, the project prepares students for work in the digital media. The emphasis is on student collaboration with the community as the foundation for effective learning.

Ethical dimensions of the Information Society (Action Line C10)

The ***Mujermigrante.mx*** **project from Mexico's Ministry of Communications and Transportation** promotes human rights for migrant women. Mujermigrante.mx uses ICT to help migrant women, who represent 50 per cent of all migrants in Mexico. Through web-enabled online easy-to-understand applications, videos, learning tools, chats and tutorials, the project empowers women by offering them access to information about human rights, health services, immigration support and government programmes. The platform was created with the participation of more than 30 government and civil society organizations. The next phase of the project will add support for mobile devices.



Shutterstock

International and regional cooperation (Action Line C11)

The **Child Helplines and Telecoms project from Child Helpline International (the Netherlands)** has produced a toolkit to promote cooperation between child helplines and the telecommunication sector in different countries. The toolkit suggests various techniques that child helplines can adopt to obtain telephone numbers that are easy to remember and that can be used free of charge. It provides information on basic telecommunication terms and processes, regulatory aspects and number implementation. The toolkit also highlights case studies and good practices that can be replicated and shared internationally.

The goal of the project is to increase toll free access for children and young people to child helpline services. Currently, child helplines are operational in 142 countries. Since 2006, when Child Helpline International and ITU joined forces to encourage national telecom regulators to provide toll free numbers for child helpline services, child helplines in 46 countries have been assigned toll free numbers.

The WSIS Stocktaking: Success Stories 2013 report provides detailed descriptions of these projects and is available at http://www.itu.int/wsis/stocktaking/docs/reports/WSIS_Stocktaking_Success_Stories_2013.pdf

AFP

Oman's strategy for becoming a digital society

By Salim Sultan Al Ruzaiqi, CEO of Oman's Information Technology Authority

Since the establishment of the Oman Digital Society (e-Oman) strategy in 2003 and its revision in 2010, Oman's Information Technology Authority has taken concrete steps to streamline access to information and communication technologies (ICT), as a way of transforming communities and integrating societies.

Political will, as expressed by His Majesty the Sultan and demonstrated in creating the HM National Award for Excellence in e-Government, has been instrumental in fostering various governmental, private and civil initiatives that have enabled Oman to achieve its current level of digital penetration and readiness. Progress has been made, in particular, in e-government, e-education and e-business.

E-government

In October 2012, under the auspices of the Council of Ministers, the Information Technology Authority launched the e-Government Transformation Plan with specific stages and timeline. This plan aims to increase the effectiveness of government services by making them available electronically to citizens and businesses at all times. The goal is to integrate government e-services so that they can be provided seamlessly, easily and safely over the Internet.

Transparency, accountability and responsibility are key characteristics of good citizens enabled by ICT. Oman's State Audit Institution has sought to engage the general public by providing a two-way system for communicating. This enables the reporting of suspect transactions, leading to the recovery of public funds and the protection of national interests.

The Oman Government Network, a national communication infrastructure linking all government entities, supports all e-Oman projects and enhances public services.

E-education

People remain the core of development, and their ownership of the e-Oman strategy and ICT skills are keys to turning Oman into a digital society. A range of initiatives seek to bridge the digital divide and enable citizens to be actively involved in the affairs of their own communities.

The Community Knowledge Centres, the Women's Community Knowledge Centres, the National PC Initiative and other community-based initiatives have proven to be a great success in promoting ICT as a cornerstone to empowering citizens and bridging the digital literacy divide.

Through the e-Oman strategy, the Information Technology Authority has brokered cooperation among several stakeholders and established a multistakeholder partnership involving private sector and civil society organizations to provide training and access to ICT.

E-business

Small-and medium-sized enterprises have been recognized as key players in economic development, in particular in the ICT sector. The Information Technology Authority provides different forms of incubator support for such enterprises that engage in ICT and knowledge management. In turn, and where relevant, the Information Technology Authority engages these enterprises in the implementation of its projects and initiatives to ensure a feedback cycle to the ICT sector.

Most recently, the Information Technology Authority launched the Sas programme (Sas — in colloquial Omani Arabic — means foundation). Sas is an ICT business development initiative and a state-of-the-art business designed to help promote small- and medium-sized enterprises build a robust ICT sector in Oman. Sas also aims to create a business ecosystem that will help to develop these enterprises into globally competitive ICT businesses. Sas already has 12 projects, of which 9 are being fully incubated and 3 are in the pre-incubation phase.

Mohamed Almawali

Indicators of digital literacy progress

Digital literacy has improved measurably. According to an ICT survey in Oman published in December 2012, a clear majority (61 per cent) of government employees now have ICT skills. Around 66 per cent of all PCs in surveyed government entities are connected to the Internet, and more than 73 per cent of these entities have fixed broadband.

The telecommunication sector in Oman has seen a 92 per cent increase in the number of mobile phone subscribers, the majority of these phones being smartphones that can access all kinds of services online and enrich e-content. PC penetration in Oman has now reached around 66 per cent, up from just over 52 per cent in 2010. Mobile penetration increased by 9 per cent in 2012 to reach 190 per 100 inhabitants. Active mobile broadband penetration increased to 52 per cent at the beginning of 2013 from 39 per cent at the beginning of 2012.

To date, around 100 000 males and females, including people with disabilities, have been trained through Community IT Training initiatives, Government IT Training and Certification programmes, and special IT training as part of community capacity-building initiatives such as the Women's Community Knowledge Centres.

Since the launch of the National PC Initiative, more than 90 000 PCs and more than 72 000 free modems for the Internet have been provided to families, students and teachers.

Regional cybersecurity centre

Beyond its own focus on becoming a digital society, Oman is keen to play a supportive regional role, and Oman's institutional cooperation with ITU experienced a boost earlier this year with the launch of the Regional Cyber Security Centre for the Arab region. This is the first ITU Regional Centre and it aims to provide Arab countries with the required support to establish their national cybersecurity centres and assist them with cyber services at regional and international levels.


AFP

Intel and education

Empowering youth and transforming communities

Through programmes that increase access to digital devices, the Internet and relevant content, Intel is helping transform education, improve health care and increase economic opportunities for people around the world. Join WSIS Forum 2013 to listen, learn, and lead more and more people to the benefits of today's digital world.

As John Davies, Vice President, Intel Corporation, says "Connecting the world is not easy — but it is very important. All people should have access to digital technology that can help improve their lives. We can — and should — work together to help make it happen!"

Intel is proud to be a strategic partner with WSIS and to support ITU's goal of connecting millions of people to broadband services throughout the world.

For more than a decade, Intel has helped governments in over 100 countries use technology to increase access and quality of education for students and help create a workforce with the skills necessary to prosper in today's global economy. Consequently, Intel fully supports the appeal of Ban Ki-moon, Secretary-General of the United Nations, for members to "deliver on their promises" to increase access to information and communication technologies (ICT) in developing countries.

Intel understands that access to technology — including broadband and ICT — creates educational opportunities that prepare students to thrive in the 21st

century. Through innovative and collaborative programmes, Intel works to empower governments and educators worldwide to create classroom environments that close the digital divide and increase student success. Pakistan, Nigeria, Sri Lanka, Morocco and Viet Nam are just a few of the countries that have worked in partnership with Intel to build a better future for their citizens in this way.

In addition, Intel is leading global efforts to make technology more affordable, available, and better suited to regional needs. Working with local and national authorities, Intel helps bring hands-on hardware and software technology to students around the world, with holistic education solutions and appropriate curricular content adapted to local needs. With the understanding that reliable classroom technology needs a trained teacher, Intel also offers a wide range of professional development programmes and resources for educators, promoting standards-aligned, problem- and project-based approaches to e-learning. Combined, these solutions are the seeds — enabling access to education, information, communication and science technology — that will grow worldwide.


AFP

Azerbaijan's role in improving connectivity in Eurasia

Most of the remote and underdeveloped areas of Eurasia are landlocked or located far from broadband highways, depriving their inhabitants of access to telecommunications and to information and communication technologies (ICT).

It is unfeasible for such countries to build their own terrestrial networks to reach global highways, even if they have permission from all the countries they would have to pass through. Because of limited connectivity between countries, intra-regional traffic has to be routed through irrational paths, leading to unnecessary interconnection costs.

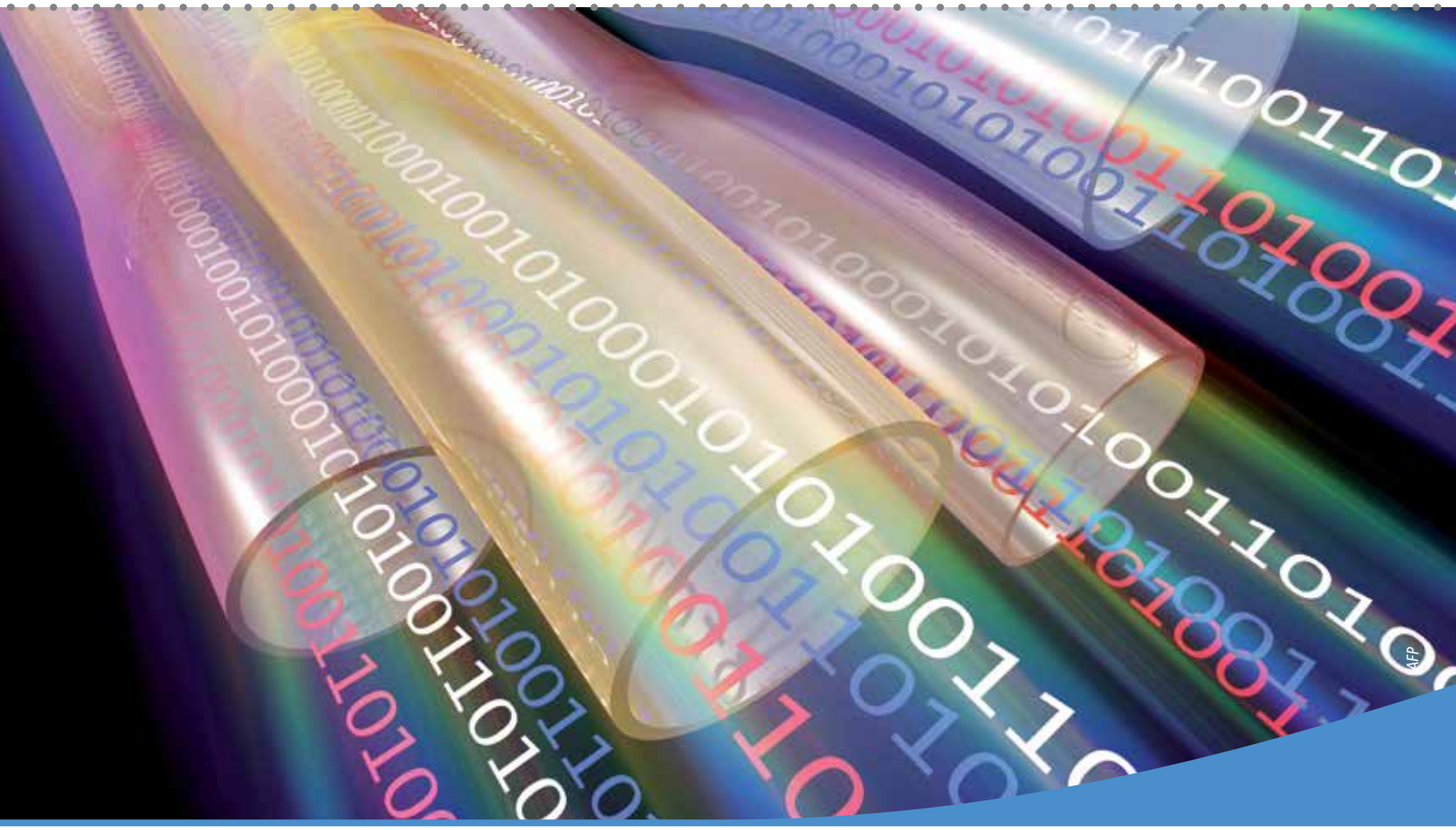
Trans-Eurasian Information Super Highway

Establishing infrastructure to provide international connectivity is a must for Eurasia. Recognizing that regional connectivity solutions can enable countries to achieve economies of scale by offering reduced costs and better quality of services, and having discussed possible options for enhanced regional connectivity, the Government of Azerbaijan proposed that Eurasian and neighbouring countries should jointly build and manage a trans-Eurasian information super highway.

On 21 December 2009, the 64th session of the United Nations General Assembly adopted a first resolution (A/RES/64/186) on "Building connectivity through the Trans-Eurasian Information Super Highway". Co-sponsored by 30 countries and adopted by consensus, the resolution acknowledges the role of Azerbaijan in coordinating the superhighway. A second resolution (A/RES/67/194) on the same subject, unanimously adopted by the 67th session of the United Nations General Assembly on 21 December 2012, establishes the Eurasian Connectivity Alliance, which is expected to realize the synergies of governments, private sector and international development organizations in expanding telecommunications and ICT networks, broadband backbone and access.

The Eurasian Connectivity Alliance is to be coordinated by ITU and will bring together the efforts of many different stakeholders to provide strategic assistance and support to projects such as the Trans-Eurasian Information Super Highway.

Because of its mandate and expertise, ITU is well placed to serve as a common forum for facilitating the sharing of experience among partners that are helping countries to realize the potential for developing regional broadband backbone networks.



Aims of the information superhighway

The Trans-Eurasian Information Super Highway will be a major element of the East-West transport corridor, facilitating access to the Internet, telecommunication systems and e-information resources for 20 countries of the region, and enabling them to develop e-economies.

A major new transit route will be built from Frankfurt to Hong Kong, connecting the biggest exchange points in Europe. A lot of fibre-optic infrastructure is already in place. New fibre-optic routes can be developed in line with national telecommunication infrastructure development plans, and old routes can be upgraded technologically to allow for their integration into the Trans-Eurasian Information Super Highway.

Closing the digital divide

The Trans-Eurasian Information Super Highway will help to further develop knowledge-based economies and support an information society in the region. It will also favour the integration of Eurasian countries into the global economy.

In order to establish the Eurasian Connectivity Alliance, Azerbaijan will work with the United Nations and ITU, and conduct bilateral meetings with United Nations Member States. By promoting the Trans-Eurasian Information Super Highway, the Eurasian Connectivity Alliance can help to accelerate the achievement of the connectivity targets set in the Millennium Development Goals, as well as outcomes envisaged by the Broadband Commission for Digital Development and by the World Summit on the Information Society. Implementing the Trans-Eurasian Information Super Highway will be a big step forward in closing the digital divide.

Electronic licensing in Kazakhstan

In Kazakhstan, an e-licence information system allows citizens to obtain licences and permits online in a transparent way.

The e-licence information system project is designed to automate the process of obtaining licences and permits, and is particularly important for citizens in distant parts of Kazakhstan. The first stage of the project (2008–2012) focused primarily on the automation of licences. Now the project is in its second phase (2012–2014), with the main goal of automating the issuance of permits.

Overall implementation of the project is monitored by the Deputy Prime Minister. The Department of Entrepreneurship Development of the Ministry of Regional Development maintains the methodology framework of the project,while the Ministry of Transport and Communications and National Information Technologies JSC (the national operator in the field of informatization) are responsible for the project's technical implementation.

Kazakhstan has a growing, active civil society. The "Forum of Entrepreneurs of Kazakhstan", one of the most influential civil society organizations, has experts taking part in the project's working group. Business representatives consider the validity of each permit document required from the applicant. State agencies are direct participants, as grantors of licences, controlling relevant sectors of the economy.

The licensing system is designed to protect citizens, society and the State from any harm that may be caused by improper pursuit of activity. Developed during Kazakhstan's transition to a market economy, the permit system sought to protect the business community from risks. But the system had many shortcomings. One is that many permit documents were introduced. For instance, to establish a construction business, an applicant was required to collect 12 different permit documents. Another barrier was in the complexity of business procedures and established requirements. Many months were spent in vain just waiting for a permit, and lost opportunities became commonplace.

While it has not been possible to abolish all regulations, barriers to establishing a business have been reduced as a result of implementing some of the tasks of the e-licensing project. Now there is less pressure on business. The processes are more accessible, simple and transparent, avoiding risks. The number of permits has been minimized. Both the volume of documents to be submitted and the approval procedures have been reduced. All these changes have simplified the lives of entrepreneurs. In addition, government agencies are now rendering high quality, reliable services. A multifaceted monitoring system was introduced for State agencies. So if an agency fails to respond to a request in time, it faces administrative sanctions.

Some 86 licences for different fields of activity were automated in 2011, with 87 permits added in 2012. The overall number of licences was reduced by half (from 1035 to 517). And 40 permits were transformed into notifications. Such notifications allow businesses to launch their activities as soon as they are notified by the government agency to which they have applied. Some 600 out of more than 1000 types of application documents were optimized. Over 30 000 electronic licences were issued through the www.elicense.kz web-portal.

Shutterstock

Given the effectiveness of the project, in 2012 legislation was enacted obliging all State agencies to issue licences in electronic format only. Since then, State agencies have been issuing licences through the e-license information system.

Today, businesses are not obliged to provide licences when participating in tenders, because the data on their licences are automatically accepted by the electronic public procurement system. The e-license information system is also integrated into customs and law-enforcement agencies. It is even possible to submit tax reports to the Tax Committee through the system.

Apart from optimizing licensing processes, enormous work has been accomplished in automating important social services. In the past, it took more than 30 days to register a business, but in 2012, this was reduced to a few hours through the electronic government web portal. Since the launch of this service, more than 6000 companies have been registered through the www.egov.kz portal.

Kazakhstan E-license web portal was named the best project in the "e-Business" category of the WSIS Project Prizes 2013 global contest.

Connecting government agencies in Kuwait

A model for better service delivery

By Abdullateef Al-Suraie, Director-General of Kuwait's Central Agency for Information Technology

The Kuwait Information Network (KIN), the flagship service of Kuwait's e-government programme, started in January 2008 with the objective of creating a super highway to connect all government agencies in the country to one local area network (LAN) setup. Phase one of the KIN project, which ended as planned in early 2010, cost about USD 12 million. This included all networking, security and management platforms as well as implementation costs. The e-government programme, including KIN, is being developed by Kuwait's Central Agency for Information Technology.

Business drivers

KIN was planned to meet certain business requirements, the predominant concern being security. The network must provide high speed, secure, reliable, and scalable connectivity to all its constituents. These constituents include not only government agencies, but also private-sector enterprises — such as banks, authentication authorities and payment gateways — that can contribute to Kuwait's e-government programme. Centralized enforcement of confidentiality, and protection of government transactions, data and information are seen as strategic objectives of the KIN project.

From an organizational standpoint, KIN should provide an impetus to smoother collaboration among participating agencies. The KIN project is also an opportunity for the government to show leadership in the use of innovative technology to support better service delivery and greater efficiency.

Cost-saving benefits

In addition to the business drivers, KIN was designed to achieve a range of cost efficiencies. An obvious benefit arises from economies of scale. Agencies collaborate to make the most of their combined purchasing power in the telecommunication market.

The standardization of core products and services also offers a cost benefit by removing technical barriers to cheaper, more efficient methods of inter- and intra-agency communication.

A common information network reduces the time and money that needs to be spent responding to telecommunication problems and risks. It also decreases the overall expenditure of government agencies on technical expertise and human resource services.

Infrastructure

The KIN networking infrastructure is a reliable and redundant fibre-optic cabling backbone. It is characterized by its high-speed, providing up to 10 gigabit (GB) communication bandwidth. One or two 1 GB links are currently dedicated to each government agency.

The network implements the open standards of multiprotocol label switching (MPLS) and dense wavelength division multiplexing (DWDM). The high availability infrastructure includes all network components, providing support for Internet protocol (IP) phones and multimedia communication (data, sound, photos and video).

Security

High performance security infrastructure spans all points of connection between KIN and the outside world. Security devices are continuously monitored for any security related threats. They are also continuously updated with the latest security protection software against threats such as malware, viruses and spam attacks.

KIN security is characterized by advanced intrusion prevention system and intrusion detection system devices placed at all its connectivity ports. There are also secure virtual private network paths for securing point-to-point connectivity. Advanced encryption standard (AES) 256 encryption is applied throughout the network to protect data being moved around, and advanced end-point security services are provided. Safety auditing systems are also in place.


Thinkstock

Management

A state-of-the-art network operations centre delivers all monitoring and management services. The centre operates 24 hours a day, 7 days a week, monitoring all KIN devices and sending the necessary alerts to the management console (local or remote) as they happen. Experience shows that many device malfunctions are being detected before they cause downtime or before they start to affect KIN efficiency or performance.

The KIN management platform is characterized by continuous online monitoring of all KIN core and perimeter devices and services. This monitoring is proactive, aiming to anticipate potential malfunctions.

Service agreements are monitored and managed. The ability to analyse the real cause of problems allows the KIN management to mitigate risk and reduce the effects of malfunctions. The best practices of the Information Technology Infrastructure Library are applied in the management of information technology services.

Challenges

As for any nationwide project, various challenges arose during the process of implementing the network. The first hurdle was to find a physical location to house the main connectivity and other hardware infrastructure. This challenge was successfully overcome by concluding a service agreement to use the communication exchanges of the Ministry of Communications.

A related challenge was to lay down the cabling infrastructure for nationwide coverage. A further service agreement with the Ministry of Communications provided the necessary fibre-optic backbone.

KIN design requires installing security equipment at each government agency, but those locations are not under the control of the Central Agency for Information Technology. This equipment should be installed in a suitably controlled and accessible environment in order to allow the Agency to deliver on the high availability requirements and respect the service-level agreements. The Agency managed to mitigate this risk through the unlimited support of all government agencies, encouraged by the long-term vision of the political leadership.

The KIN project was the first to be implemented in Kuwait at this scale. The availability of human resources was a challenge to start with. To overcome this hurdle, the Agency allocated almost 15 per cent of total project cost to train local Kuwaiti staff.

Future plans

Currently, KIN connects 55 government agencies, and almost 60 per cent of government data traffic passes through the network. At this stage, only government headquarters of information centres are connected, but there are plans to expand KIN to connect branch offices of government agencies as well. Both fibre-optic links and digital subscriber line (DSL) links will be provided to accommodate even small offices outside urban areas. Each government agency will have two separate links through two different paths to ensure full redundancy. Internet services will be provided to all KIN constituents.

On a regional scale, it is anticipated that KIN will eventually be connected to the sister national networks of Gulf Cooperation Countries.

Poland's system for locating emergency calls and facilitating number portability

By Magdalena Gaj, President of Poland's Office of Electronic Communications

Poland's telecommunications regulatory authority — the Office of Electronic Communications **(Urząd Komunikacji Elektronicznej)** ***— has set up a platform that both adds value to the country's emergency call system and supports number portability. This is the Location and Information Platform with a Central Database*** **(Platforma Lokalizacyjno Informacyjna — Centralna Baza Danych),** ***established as part of the nationwide information technology system for emergency reporting.***

The platform was developed by the Office of Electronic Communications to improve the system for collecting information about the location of a customer calling an emergency telephone number, as well as to streamline processes related to number portability.

Emergency location service

Emergency helpline systems save human lives, and the European Union (including Poland) has introduced 112 as a common number that enables callers to contact local emergency services for assistance.

Poland's Location and Information Platform with a Central Database includes a database of users of public telephone networks and provides a well-organized system for informing the relevant emergency services of the location of the telephone network terminal (fixed-line or mobile) from which an emergency call is made.

In the case of fixed-line, the system provides the address of the installed network termination point (a telephone). If the call is made from a mobile telephone, the system provides the geographical coordinates of the terminal device. In that case, the accuracy of the location data depends on the location system offered by the operator of the mobile network.

When a caller dials the emergency number, the call is transmitted through the public telephone network to the Voivodeship Emergency Notification Centre or to the closest competent unit of the rescue services. The telephone number of the customer calling for help is displayed at the emergency centre or unit and — for calls from fixed-line telephones — the emergency centre or unit can request data on the caller's location to be forwarded from the platform's database.

When an emergency number is dialled from a mobile telephone, the network of the mobile operator initiates the process of locating the caller. Once the caller's location is established, that information — along with the caller's telephone number


AFP

— is sent by the mobile operator to the platform. Further information (previously collected and held in the platform's database) about the caller is added to the location and telephone number, and the package of information is then forwarded to the relevant rescue services.

When human life is at stake, every second is important. Immediate identification of the location from which an emergency call is made is of great significance, in particular when the caller is in a serious condition or in shock and cannot define his or her location with sufficient accuracy. It is also important for the safety of tourists who may not know an area well enough to provide a precise description of their location.

The Location and Information Platform with a Central Database shortens the response time of the rescue services. The platform is capable of supporting up to 15 000 emergency calls within one minute and up to 40 million calls within one month.

Mobile network operators convey location data to the platform in about three to five seconds, and the platform receives and processes around four emergency incident alerts per second.

Number portability

In a competitive telecommunication environment, number portability is a key facilitator of consumer choice. Whether for mobile or fixed communications, it is important for telephone users to be able to retain their telephone numbers when changing from one service provider to another.

The Location and Information Platform with a Central Database benefits telecommunication businesses by offering a technical base for processes related to number portability. The platform is capable of supporting up to 200 000 porting processes within 24 hours and up to 4.5 million porting processes within one month.

Structure of the platform

The Location and Information Platform with a Central Database consists of two data processing centres, located in Borucza near Warsaw and Siemianowice Śląskie, which work continuously, 24 hours a day, 7 days a week, including public holidays.

On average, the databases in these two data processing centres receive around 4 million notifications on location each month. This information is provided by telecommunication businesses. All telecommunication businesses with more than 1 million customers have a dedicated connection with the platform, while other operators connect securely via the Internet.

At the other end of the system, there are the emergency rescue services, connected through a central point for emergency alerts or via the Internet.

Work on the original Location and Information Platform with a Central Database was completed on 31 March 2011 and the Office of Electronic Communications is now undertaking a follow-up project to improve the platform.

A useful model

Besides its importance for the safety of citizens, the platform has enhanced the operations of telecommunication businesses by offering a technical basis for the implementation of processes related to number portability.

The platform was established as an interoperable solution, based on national and international standards. This approach, together with an open user interface, guarantees full functionality and allows emergency services and telecommunication operators to connect to the system without any unnecessary costs.

Poland's Location and Information Platform with a Central Database is a model that could be replicated by other interested countries.

Innovating for a knowledge-based economy in Rwanda

kLab, an open technology hub enables young entrepreneurs to collaborate and innovate

With only a table and two laptops in a bare room inside a building known as "Telecom House" in Kacyiru, Kigali, Sylvie Umutesi and Stanley Mwizerwa are among the many young entrepreneurs in Rwanda with a strong belief to shape their country's future economy through information and communication technologies (ICT).

Umutesi and Mwizerwa are software pioneers. In 2010, they founded their software company. Their first ideas and projects were a calendar for doctors' visiting hours and software for providing advice to farmers. Using text messaging or the Internet, farmers could ask experts for help on how to improve their harvests and make informed choices when selling or buying products.

"Putting our ideas in writing and coding, or technically developing, software was not our main challenge," says Stanley Mwizerwa. "The biggest challenge was how to overcome the scepticism we encountered among ordinary Rwandans regarding our products."

Initially, Umutesi and Mwizerwa had to offer their software free of charge before they could gain the trust of potential clients among ordinary Rwandans and businesses. They hardly believed they could benefit from the time and energy they spent on designing software. "Patience pains, but it pays," they now say.

As Dr Hamadoun I. Touré, Secretary-General of ITU and co-Vice-Chairman of the Broadband Commission for Digital Development said during the 7th Broadband Commission Meeting, held in Mexico City in March 2013, "the power of knowledge is based on one key ingredient: the human brain, which is equally distributed everywhere in the world. We must work for a world where every citizen can use information, create information and share information." Rwanda has made this call a priority in its Vision 2020 by investing heavily in ICT infrastructure and services as it wants to become a knowledge-based economy.

To help young entrepreneurs like Umutesi and Mwizerwa, the Government of Rwanda, businesses and development aid organizations joined hands to fund a newly created Knowledge Lab (kLab) to support the young generation of ICT specialists.

At the kLab, young people are hard at work on their laptops on the sixth floor of Telecom House — the government building in Kacyiru. Software developers can use the premises free of charge, exchange ideas with colleagues and mentors and present their projects to an informed and interested audience.

"One of the ideas behind kLab was to create a space where students, fresh graduates, entrepreneurs and innovators come to work on their ideas and projects to turn them into viable business models," explains Claude Kalisa Migisha, kLab's General Manager since its founding in June 2012.

kLab has already attained remarkable achievements. Fresh graduates have become great programmers after benefiting from kLab's rich online materials from the world's top universities. Foreign investors, venture capitalists and angel investors, along with big companies such as

Samsung, Microsoft, Hewlett-Packard and Google have partnered with local ICT talents and have created jobs.

Innovations being developed by kLab tenants include "e-Nkunga", a crowd funding mobile and web application; "unified school system", a web application developed to connect parents to the schools of their children, allowing them to get regular performance updates to effectively monitor the education of their children; "farm in bytes application (FIBA)", which helps experts such as veterinaries and agronomists to guide farmers in day-to-day farming activities throughout a farming cycle; "medical appointment SMS application", which allows patients to book appointments at different health facilities, and "Sarura", an application that enables farmers to easily access agricultural information and weather updates through their mobile phones.

kLab brings like-minded innovators together and gives them the resources they need to explore their ideas, learn from each other, and develop innovative solutions. It is also a technology space enabling ambitious entrepreneurs to come together to develop their trailblazing ideas into successful businesses.

Hewlett-Packard's early infant diagnosis project

Improving testing and treatment for babies exposed to HIV

When new-borns are diagnosed with HIV, there is no time to wait. If they do not get treatment right away, half of them will not live to see their second birthday. Yet all too often, infants in some developing countries die because outdated, paper-based systems delay test results, diagnoses and the care they need.

Hewlett-Packard (HP) was pleased to participate in WSIS Forum 2013 and hear from WSIS stakeholders how its technology could be used. The company showcased its "Field Office" kit and "ePrint" wireless citizen kiosk for emergency situations and for empowering citizens in remote locations. HP believes that the private sector, governments, non-governmental organizations (NGOs) and other civil society representatives need to work together more to address today's most pressing societal challenges. Such a partnership can make a huge difference in people's lives, as shown by HP's Early Infant Diagnosis project in Africa.

Better technology for faster test results

Working with the Clinton Health Access Initiative and the Kenya Ministry of Health, HP developed its Early Infant Diagnosis project to speed up early testing and treatment for infants exposed to HIV. The project automates the HIV testing process, giving babies a better chance of survival by speeding up the reporting of test results and thus enabling an early start of antiretroviral treatment. The project started in Kenya and has been expanded to Uganda and Nigeria. There are plans to use the project's information technology infrastructure for surveillance of other diseases, such as malaria and tuberculosis.

Through better use of technology, it is possible to improve access to life-saving information and quality care, reduce barriers and strengthen health systems across the globe. Programmes such as the Early Infant Diagnosis project show how a positive impact can be made on global health by rethinking processes and innovating solutions with governments, universities and NGO partners.

Six modern HP data centres linked to Kenya's national laboratories provide a platform to speed HIV data transmission. Students from Strathmore University in Nairobi developed a custom database application to make HIV test results quickly available online and to enable real-time tracking and analysis. An innovative solution enables test results to be sent from the national laboratories via text message to an SMS-enabled printer, in each local clinic, where it can be printed out immediately. These all-in-one HP printers are equipped with special modems that connect to 3G networks, overcoming the lack of Internet or fixed broadband connectivity in rural areas. The use of SMS to send and receive test results is key in the project,


AFP

because even clinics without Internet access can receive SMS messages.

Diagnostic health reporting has been accelerated from several months to fewer than 30 days. More than 200 000 infants have been tested in Kenya and Uganda since 2011. Approximately 10 per cent of the tested infants were diagnosed as HIV positive and put on antiretroviral treatment immediately. The expansion of the Early Infant Diagnosis project enables early HIV testing of hundreds of thousands of infants in Africa and gives them the chance to be put on early treatment and survive. The existing infrastructure is also being utilized to roll out viral load testing, a critical diagnostic test for the more than 600 000 patients living with HIV and AIDS in Kenya. Viral load testing guides clinicians on treatment options and helps save lives by identifying treatment failure early enough to potentially change treatment before a patient's health deteriorates.

For more information, please visit hp.com/social-innovation or contact Anja Vogel anja.vogel@hp.com or Elisabeth Rochman elisabeth.rochman@hp.com

ITU appoints First Lady of Nigeria as Child Online Protection Champion

ITU Secretary-General Dr Hamadoun I. Touré has appointed the First Lady of Nigeria and President of the African First Ladies Peace Mission, Dr Patience Goodluck Jonathan, as ITU's Child Online Protection (COP) Champion.

The First Lady received her letter of appointment on 10 May 2013 from the Director of ITU's Telecommunication Development Bureau, Brahima Sanou, during their meeting to discuss cyberthreats and cybersecurity in the African region. Mr Sanou was accompanied by Datuk Mohd Noor Amin, Chairman of the International Multilateral Partnership Against Cyber Threats (IMPACT), ITU's executing arm for cybersecurity, and Andrew Rugege, ITU Regional Director for Africa.

"It is a great honour for ITU to have the support of Nigeria's First Lady," said Dr Touré. "Her commitment is further confirmation of the key role that ITU is playing as a global catalyst and facilitator in international dialogue and cooperation in the area of cybersecurity." Mr Sanou added that the "COP framework has become a crucial means of creating a safe environment for our children while they are on the net."

Datuk Mohd Noor Amin said that "Her Excellency is both a progressive leader and renowned humanitarian, and she is the ideal candidate to help ITU-IMPACT in its mission to push for COP awareness and the need for national online protection frameworks to protect and support the younger generations online."

In addition to the COP initiative, ITU and IMPACT are looking at the possibility of setting up a Cybersecurity Regional Centre in Nigeria to expand ITU-IMPACT's global network and localize cybersecurity services to meet the specific needs of the region. Nigeria has indicated its interest in hosting a new Regional Centre under the ITU-IMPACT framework.

The proposed Regional Centre would become a hub of expertise and constitute an important component of the multi-stakeholder network that must be built so that the full benefits of information and communication technologies can be assured for all citizens. "While acting as a catalyst for greater regional collaboration to address escalating cyberthreats, this centre would also help promote Nigeria as an advanced cybersecurity hub for the region," said Mr Sanou.

Houlin Zhao
ITU Deputy Secretary-General

Pavel Filip
Moldova's Minister of Information Technology and Communications

Brahima Sanou
Director of ITU's Telecommunication Development Bureau

World Telecommunication Development Conference 2014

Regional preparations kick off in Moldova

The Regional Preparatory Meeting for the Commonwealth of Independent States (CIS) region was organized by ITU's Telecommunication Development Bureau (BDT) in Chisinau, Moldova, from 19 to 21 February 2013, at the invitation of the Government of Moldova through the Ministry of Information Technology and Communications.

This event was the first of six regional meetings to prepare for the next World Telecommunication Development Conference (WTDC-14), which is to be held from 31 March to 11 April 2014 in Sharm el-Sheikh, Egypt. WTDC-14 will decide on the activities that ITU's Telecommunication Development Sector (ITU–D) will carry out over the period 2015–2018.

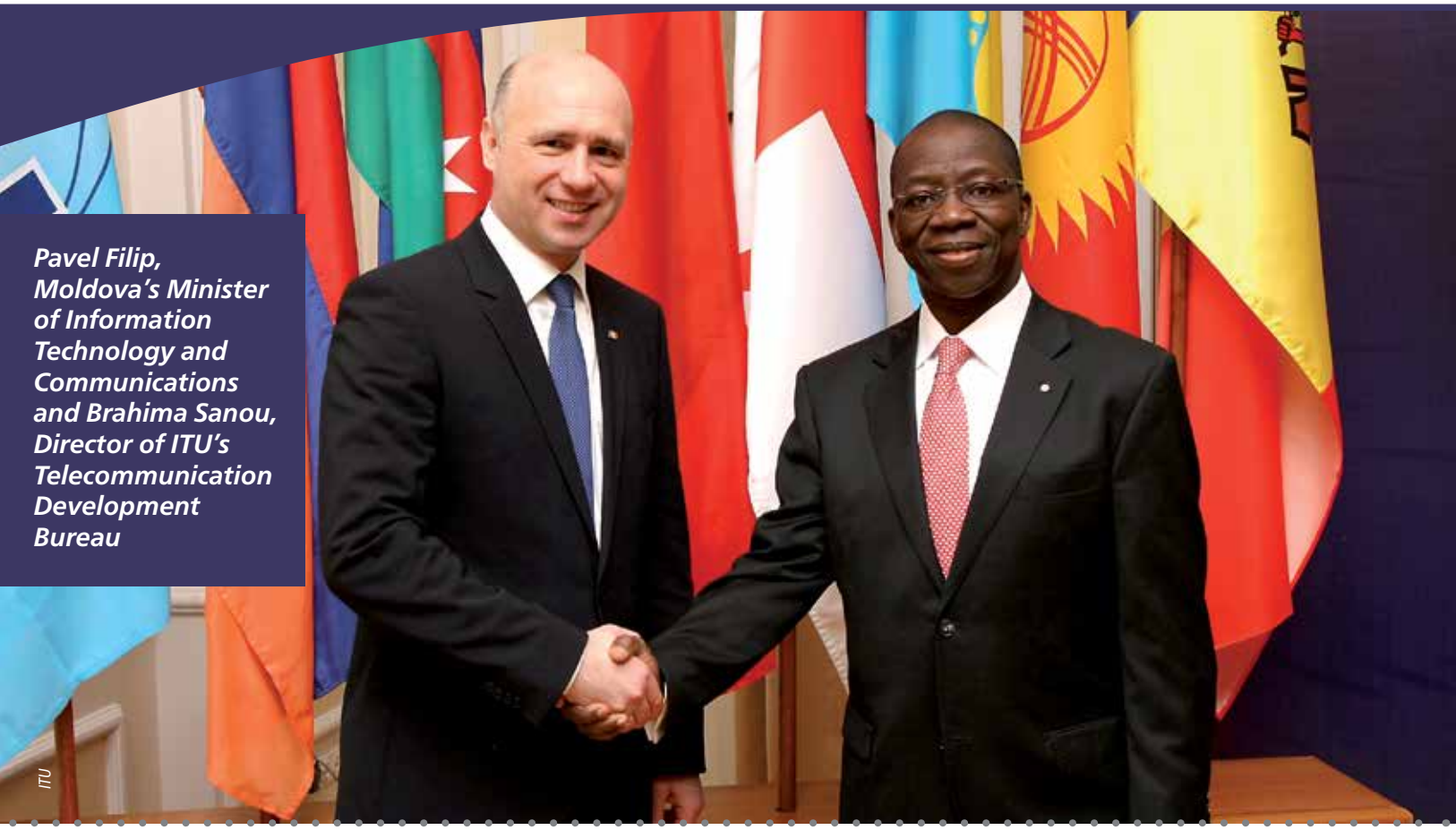
Objective and participation

The objective of the CIS Regional Preparatory Meeting was to identify regional priorities for the development of telecommunications and, more generally, of information and communication technologies (ICT). The meeting was held in close collaboration with the Executive Committee of the Regional Commonwealth in the field of Communications (RCC), and brought together 76 participants representing 10 Member States from the region, two other Member States, as well as 14 agencies or organizations. It was chaired by Pavel Filip, Moldova's Minister of Information Technology and Communications. He was supported by two vice-chairmen, Baiysh Nurmatov of the Kyrgyz Republic and Vladimir Minkin of

the Russian Federation, and the secretary of the meeting, Orozobek Kaiykov, Head of the ITU Area Office for the CIS region.

"The development of the telecommunication and ICT sector, as well as the information society as a whole, both in our country and the entire region, have reached an advanced level. The ICT sector is one of the most significant components of economic growth and is an effective instrument for improving the living standards of our citizens", said Mr Filip.

> *"The development of the telecommunication and ICT sector, as well as the information society as a whole, both in our country and the entire region, have reached an advanced level. The ICT sector is one of the most significant components of economic growth and is an effective instrument for improving the living standards of our citizens."*
>
> *Pavel Filip, Moldova's Minister of Information Technology and Communications*



Pavel Filip, Moldova's Minister of Information Technology and Communications and Brahima Sanou, Director of ITU's Telecommunication Development Bureau

ITU

Supportive ITU initiatives

ITU Deputy Secretary-General, Houlin Zhao, congratulated the countries of the region for their achievements in the field of ICT. The Director-General of the Executive Committee of the RCC, Nurudin Mukhitdinov, emphasized the importance of the Regional Preparatory Meeting for defining priority objectives and actions for the region in the period 2015–2018.

"It is clear that the countries in this region have identified ICT as a priority and a driving force towards sustainable development", said Brahima Sanou, Director of ITU's Telecommunication Development Bureau, adding "Now that the region has almost achieved universal access to mobile communications, the next challenge is to develop fixed and mobile broadband on the same scale. This will contribute to sustainable development through timely service delivery for health, education, banking, and business."

Mr Sanou shared three of the initiatives that he has launched, which he considered would support the positive developments in the CIS region. These initiatives are: m-Powering Development; Smart Sustainable Development Model; and ITU Academy.

The aim of m-Powering Development is to build partnership around the rapid growth of mobile communications across the globe to deliver ICT applications in education, health, government, banking, environment, business and other areas. The Smart Sustainable Development Model seeks to link emergency telecommunications and sustainable development in order to optimize the use of the resources of the ICT sector. The business case is to use excess capacities for delivering social services in remote and vulnerable areas to trigger development, while training these service providers to become emergency telecommunication operators when natural disasters strike. The ITU Academy will develop training modules and toolkits for countries and academic institutions covering all areas of ITU's work. It will serve as a platform for sharing training modules and opportunities around the world.

> *"It is clear that the countries in this region have identified ICT as a priority and a driving force towards sustainable development."*
>
> *Brahima Sanou, Director of ITU's Telecommunication Development Bureau*

Inputs to the Regional Preparatory Meeting

The Regional Preparatory Meeting in Moldova was preceded on 18 February by the Regional Development Forum for the CIS, which focused on trends in the development of ICT. Discussions centered on efforts made by countries in the CIS region to create a more dynamic ICT sector. Countries were concerned, in particular, with infrastructure building, especially for broadband access, as well as with strengthening cybersecurity and enhancing capacity building.

Along with the views of the forum, the Regional Preparatory Meeting had before it reports on the results of the World Telecommunication Standardization Assembly (WTSA) and the World Conference on International Telecommunications (WCIT), both held in 2012. WCIT-12 agreed on revised International Telecommunication Regulations, which have treaty status and will come into force in 2015.

The reports highlighted the results of WTSA-12 and WCIT-12 that have implications for the future work of ITU–D. The main purpose of the reports was to facilitate the preparation of contributions to WTDC-14. Participants noted both documents with appreciation.

The following WTSA-12 resolutions were considered to have a significant impact on the work of ITU–D: Resolution 44 on bridging the standardization gap between developing and developed countries; Resolution 50 on cybersecurity; Resolution 58 on encouraging the creation

ICT infrastructure development	Cybersecurity and ICT applications deployment	Enabling environment enhancement	Human capacity building and digital inclusion	Special assistance; emergency telecommunications; climate change
Bridging the standardization gap	Building confidence and security in the use of ICT	Bridging the standardization gap	Establishment of courses on ITU	Assistance to landlocked developing countries in developing their broadband infrastructure
Broadband access	Child online protection	Creation of database with access to ITU publications	Harmonization of centres of excellence and ITU Academy	Disaster forecasting and monitoring mechanisms
Wireless broadband infrastructure	E-health	Availability of ITU publications in the Russian language	Development of training programmes with certification	E-waste
Transition from IPv4 to IPv6	E-education		Creation of training materials to be publicly available	
Internet of things	E-libraries and cultural heritage		Assistance to people with disabilities	
Energy efficiency				
Affordability of equipment				

of national computer incident response teams, particularly for developing countries; Resolution 64 on IP address allocation and facilitating the transition to and deployment of IPv6; Resolution 76 on studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU mark programme; and Resolution 78 on information and communication technology applications and standards for improved access to e-health services.

The main topics addressed by the International Telecommunication Regulations that affect the work of ITU–D are: creating and maintaining an enabling policy and regulatory environment; improving energy efficiency and cutting e-waste; bringing the benefit of ICT to the 650 million people living with some kind of disability; increasing security by promoting greater international cooperation in ensuring the security and robustness of international telecommunication networks; improving broadband connectivity to landlocked developing countries and small island States; and improving access to emergency services.

Priority areas for the CIS region

Taking into account the 29 contributions received from ITU Member States and ITU–D Sector Members, a set of proposed regional priorities was drawn up (see table) as a basis for contributions to WTDC-14.

Participants also felt that ITU–D goals should include a reference to bridging the standardization gap and to the United Nations Millennium Development Goals.

CIS regional initiatives

The Regional Preparatory Meeting concluded by identifying the following five initiatives to: create a child online protection centre for the CIS region; ensure access to telecommunications and ICT services for persons with disabilities; introduce training technologies and methods using telecommunications and ICT in order to develop human potential; develop broadband access in the CIS countries; and build confidence and security in the use of ICT in the CIS countries.

Official Visits

During April 2013 courtesy visits were made to ITU Secretary-General Dr Hamadoun I. Touré by the following ambassadors to the United Nations Office and other international organizations in Geneva, and other important guests.

From left to right: Dr Hamadoun I. Touré, ITU Secretary-General; Datuk Mohd Noor Amin, Chairman of the International Multilateral Partnership Against Cyber Threats; and Brahima Sanou, Director of the ITU Telecommunication Development Bureau

Robert Conway, Chief International Affairs Officer at VimpelCom

Néstor Osorio, President of the United Nations Economic and Social Council

Houlin Zhao, ITU Deputy Secretary-General and Karen Pierce, Ambassador of the United Kingdom

All photos are by Rowan Farrell/ITU.

Victor Moraru, Ambassador of Moldova

Pierre Goudiaby, Chairman of ATEPA Group

Moncef Baati, Ambassador of Tunisia

Umunna Humphrey Orjiako, Ambassador of Nigeria

Tibor Toth, Executive Secretary of the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization

Nicolas de Rivière, Director for United Nations and other international organizations at the Ministry of Foreign Affairs in France

ITU NEWS Magazine

Tells you what's happening in telecommunications around the world

Every time you make a phone call, use e-mail, watch television or access the Internet, you benefit from the work of ITU.

Advertise in *ITU News* and reach the global market

For advertising information, contact:
International Telecommunication Union
ITU News
Place des Nations
CH–1211 Geneva 20
Switzerland
Tel.: +41 22 730 5234
E-mail: itunews@itu.int
itunews.itu.int

Committed to connecting the world

Join us in

2013

to continue
the conversation
that matters

ITU TELECOM WORLD '13