ITU Backgrounders

WHY ITU MATTERS TO YOU

ITU has evolved alongside the fast-changing ICTs, acting as the global forum for the coordination and management of global ICT networks and resources, including radio-frequency spectrum and satellite orbits.

Can you imagine your life without telephone, radio, television or Internet access? Do you know how your watch tells the correct time? ITU is behind all of these. ITU's work affects the lives of almost everyone on the planet. As the United Nations' specialized agency for information and communication technologies (ICTs), ITU's work underpins the many complex systems and technologies which make modern life possible.

Since 1865, when the Union was set up by 20 European nations to facilitate the interconnection of national telegraph networks, ITU has evolved alongside the fast-changing ICTs, acting as the global forum for the coordination and management of global ICT networks and resources, including radio-frequency spectrum and satellite orbits.

Enhancing today's technologies

From allocating radio frequency spectrum for mobile phones, satellite networks and broadcasting to standardizing the infrastructure underpinning the Internet, ITU's 193 Member States work closely with over 760 technology companies, industry bodies and academic institutions to develop standards and recommendations to ensure that ICTs are safe and easy to use on a global basis. ITU's membership reads like a Who's Who of the ICT sector, with companies which compete fiercely in the global marketplace coming together under the auspices of ITU's technical Study Groups to collaborate on agreed global approaches to network interconnectivity and future developments.

Radio frequencies are the life blood of all radio systems that we sometimes take for granted – including mobile phones and WiFi, audio and television broadcasting, radionavigation systems, terrestrial and satellite links, emergency communications on land, sea and air and the whole gamut of science services operating on Earth and in space. ITU provides the international framework to manage the spectrum of radio frequencies used and to minimise the potential for interference between different uses. Like spectrum, the ITU also registers and coordinates the use of satellite orbits to avoid interference between satellite systems.

In addition to providing phone, Internet and broadcast services that enable people around the world to enjoy live coverage of events (such as the FIFA World Cup or the Olympic Games), satellite coordination and radiofrequency spectrum allocation are vital components in facilitating both maritime communications and aeronautical navigation, as well as the GPS geo-location data used by vehicles and an increasing number of fixed and handheld devices. In one way or another, anyone accessing the Internet will benefit from ITU's work – whether through fixed-line, wireless, cable or satellite networks.

Setting the standards for tomorrow's networks

ITU is the pre-eminent global standards body creating international standards for radiocommunication systems, interconnection of networks, the transport of data, online security, broadcasting systems and multimedia systems, such as streaming of audio and video.

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Making international calls? ITU is behind the technical standards and country codes that make international phone calls possible – so that when you dial +1 for North America, +33 for France or +86 for China, your call always gets to the right person, no matter where you are in the world.

Going abroad with your mobile? ITU frequency allocations and globally harmonized standards enable international roaming– meaning you can go on using your mobile when you travel from one country to another. They also help make terminals affordable by permitting the economies of scale arising from a global market.

Want to listen to the radio in your car or watch television? ITU frequency planning and standards ensure high quality reception of TV and radio programs from free-to-air or satellite broadcasting.

Want to watch a video on your smartphone? ITU multimedia standards define the video streaming capability of most modern devices, network standards provide the broadband transport needed to support high-speed data rates, and ITU radio frequency management ensures sufficient bandwidth, without causing interference to other wireless services.

Want to change contracts and retain your number? ITU's work on mobile number portability helps operators and regulators around the world ensure your number remains unchanged.

All 3G and 4G mobile broadband systems are based on the ITU's International Mobile Telecommunications (IMT) standards which were developed in close collaboration with ITU's Member States, national and regional standardization organizations, network operators, equipment manufacturers, academia and industry fora. ITU is now working together with these partners in the same open process to establish the overall framework for 5G and the further development of IMT to meet the needs of the connected world in 2020 and beyond.

One exciting recent development is the G.fast standards, bringing fresh life to the copper lines which comprise most of the world's fixed telecommunications infrastructure. The standards (ITU-T G.9700 and G.9701) could see copper and fibre running together over the 'last metres' – from curb to home – while still achieving fibre-equivalent speeds. It is estimated that the introduction of these standards could save the telecoms industry up to one billion US dollars globally by prolonging the life of existing copper networks.

Other notable achievements include Voice over Internet Protocol (VoIP), Public Key Infrastructure (PKI – used primarily to facilitate secure transactions online), and compression standards to enhance the performance of video. ITU-T's H.264 standard, used for high definition video compression in everything from Blu-Ray and HDTV to 3G mobile multimedia, won a Primetime Emmy in 2012. It is now being joined by a new 'gold standard', ITU-T H.265, which will further enhance video streaming on the growing number of connected devices.

Promoting ICTs for a better tomorrow

ITU's motto is 'Committed to Connecting the World' and testifies to ITU's work in promoting global digital inclusion. Well over 90% of the world's people are now within reach of mobile cellular networks, and with mobile cellular subscriptions already surpassing the 7 billion mobile mark, most people have some kind of access to mobile telephony. The next challenge is to bring everyone online – by the end of 2014, ITU will have helped to connect nearly 3 billion people globally to the Internet, and is focused

on the challenge of connecting the remaining 4.3 billion. To this end, ITU is working to facilitate the roll out of ICT networks to both developed and developing countries, with a particular focus on broadband. Along with the ICT Regulatory Toolkit, which provides regulatory best practice in a fast-changing environment, ITU convenes an annual meeting of global telecom regulators and industry members at the Global Symposium for Regulators (GSR) to debate and consider the hot issues shaping the telecoms sector – including net neutrality, mobile roaming, VoIP and tariffs.

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Tomorrow's telecommunications will undoubtedly provide increased quality of life and numerous social benefits. ICTs can give the chance to millions of people, who lack resources, to pursue their education through distance learning. ICTs can help end isolation for disabled persons by enabling them to participate in society more easily, or make our roads safer by deploying intelligent transport systems. ITU is proud to be fully engaged in such developments.

Providing valuable information and the world's most comprehensive statistics on ICT access and use

ITU develops, collects and systematizes useful information related to telecommunications/ICT and publishes it widely through various Reports, Handbooks and Manuals to Members. These publications cover different aspects of ICT ranging from fundamentals, like Handbook on National Spectrum Management or the ITU's bestseller, the Maritime Manual, on emerging technologies and spectrum management techniques, such as IMT Advanced or cognitive radio. In addition, ITU disseminates international regulations, global standards and best practices on ICT use through its regular seminars, workshops and symposia in different countries and regions of the world.

ITU gathers world-leading ICT statistics, mapping information on over 100 telecommunication/ICT indicators – on everything from the number of fixed-telephone subscriptions and households using the Internet to national telecommunications investment – for over 200 economies worldwide. Collating data from direct engagement with national telecommunication/ICT ministries and regulatory authorities on services such as mobile cellular, Internet/broadband and investment, and from national statistical offices (NSOs) or door-to-door surveys for household ICT data, ITU collects the world's most comprehensive information on the evolving global technology sector.

ITU's annual flagship publication "Measuring the Information Society" includes the ICT Development Index (IDI), which ranks 157 countries according to their level of ICT access, use and skills. It is widely recognized by governments, UN agencies, the tech industry, and international agencies such as the World Bank and IMF as the most accurate and impartial measure of overall national ICT development. ITU also comprehensively maps benchmark ICT developments such as broadband pricing and affordability and telecommunications investment. The publication also includes other statistical publications include the ICT Eye, the ITU Yearbook of Statistics and the World Telecommunication/ICT Indicators Database.

Addressing global environmental and technology issues

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Concerned about Accessibility? Getting the most out of ICTs can sometimes present challenges to the hundreds of millions of people living with a disability worldwide. ITU works to ensure that those who have difficulty seeing, hearing or navigating technology are able to access the full benefits of ICTs by developing technical standards and requirements that keep accessibility issues firmly in mind.

Engaged with Youth Inclusion? Given that over 40% of the world's population is under 25, ITU aims to support young people in improving their access, use and knowledge of ICTs. Our work with youth is designed to help integrate them into the Information Society, enhance their educational opportunities, combat youth unemployment, and promote social and economic development.

Recognize the importance of Gender Equality? ITU believes that ICTs can play a transformational role in the lives of women and girls. Girls in ICT Day is growing year on year, championing the catalytic role a tech career can play in creating exciting, far-reaching opportunities for women and girls worldwide. Partnering with telecentre.org, we have already achieved our target of delivering ICT training to one million women worldwide.

As the effects of climate change become more and more evident around the globe, countries are facing the immense dual-challenge of mitigating the causes of climate change and adapting to its effects. Given these pressing concerns, ITU has been examining the carbon footprint of this high-growth industry, working hard to make ICTs more energy-efficient – through the standardization of the universal phone charger, for example, as well as the promotion of energy-efficient standards. ITU is also supporting the transition towards a 'green economy' through its work on Smart Cities and Smart Water Management.

ICTs can also help mitigate the effects of environmental disasters and catastrophes, ensuring that aid workers have access to emergency telecommunications in the immediate aftermath, and helping bring medical aid and support to where they are most needed.

These are just some of our activities that we believe matter to you. For 150 years, ITU has innovated and evolved to facilitate international ICT networks and services in the rapidly changing ICT sphere, all with one goal in mind – commitment to connecting the world.