

Report of the High Level ICT Economic and Industry Expert Roundtable  
16 November, 2016, ITU TELECOM WORLD in Bangkok, Thailand

In 2016, ITU and UN ESCAP jointly launched a [High-Level Economic and Industry Expert Roundtable meeting](#) at ITU Telecom World, in Bangkok, aiming to exchange experts' views and analysis on the latest trends and issues related to the development of telecommunications/ICT infrastructure, focusing on economic and financial aspects.

At its first meeting, the invited experts discussed how best to invest in ICT infrastructure to achieve business objectives, benefits, and socio-economic development, and to accelerate the connection of the remaining unconnected. The discussion was based on 2015 Internet user figures, and ITU's Connect 2020 Agenda<sup>2</sup> Target 1.2 of connecting 60% of the world's population by 2020 and therefore focused on 1.5 billion to have to come online by 2020 in order to meet the targets, their location and key characteristics. Moreover, the discussion made a distinction between those to come online next and those to come online after 2020 (namely 2.6 billion), all else being equal. The key assumption made was that the deployment of large-scale low-cost or almost-free rural solutions was unlikely to unfold within the 2020 time-frame. The executive summary of the discussion to be considered at the Broadband Commission Session in Davos follows.

### Executive Summary

There is a widespread understanding that an advanced and reliable telecommunications/ICT infrastructure can contribute to socio-economic growth and advancement. Also, a number of studies have shown that increased broadband penetration can positively impact economic growth ([Working Together to Connect the World by 2020, UN Broadband Commission, January 2016](#)).<sup>3</sup> However, more than 50% of the world's population still remains offline, of which a large proportion is poor, uneducated, and of which more than two-thirds are located in underserved remote or rural areas. Understanding why people are offline is key to identifying what types of measures or policies are needed to address the gap. In this context, economic experts from global ICT consulting firms, R&D entities, academia, and international organizations, discussed the following specific subjects and contributed to the findings:

**1) *Where do (a) the next 1.5 billion and (b) the remaining 2.6 billion to be connected come from and what are their key characteristics? For each group, what are their key distinguishing indicators?***

While all regions will contribute to the next 1.5 billion coming online, the largest shares of people coming online are likely to come from countries with high urbanization and rising middle classes in the absence of the deployment of large-scale low-cost rural solutions. The region with the highest urban offline population is the Americas. While Asia-Pacific's offline population is predominantly rural, countries with high urbanization prospects and/or rising middle classes include China, Indonesia and India, which will drive Internet uptake across the region. The remaining 2.6 billion would be mainly coming from the population

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<sup>1</sup> The Roundtable was chaired by Mr Kaveh Zahedi, Deputy Executive Secretary, Sustainable Development, UN Economic and Social Commission for Asia and the Pacific, and the list of experts attended is available here <http://www.itu.int/net4/Telecom/webs/TelecomWorld/session/description/C-00002140>

<sup>2</sup> Connect 2020 Agenda for Global Telecommunication/ICT Development, available here <http://www.itu.int/en/connect2020/Pages/default.aspx>

<sup>3</sup> It should be noted that a number of studies call into question the productivity gains said to have been brought on by the Internet. For example, the World Development Report 2016 (World Bank, 2016) and World Employment & Social Outlook 2016 (ILO, 2016) offer more cautious viewpoints with regard to the economic impact of Internet access on job creation, with the WDR 2016 examining the 'displacement' of jobs between different sectors.

based in the out-of-town areas, and some from youth and younger age groups. Basically, the big challenge in connecting the majority of the world population is affordable broadband, and in order for this, the first wave of connection will include a combination of mobile broadband (3G/4G) in urban and increasingly in rural/remote areas, including some of the most remote parts of the world alongside the progressive roll-out of fixed broadband (fibre).

Nevertheless, low incomes might pose a challenge for connecting the unconnected people. In some countries, governments support the cost of bringing people online by providing relevant sectors with specific tax incentives. New business models must be found, which target the remaining 2.6 billion who may live in rural and remote areas with little affordable infrastructure. In addition, even in areas where high-speed internet connectivity is widely available, issues related to affordability, lack of digital skills, awareness, entrepreneurship skills for the productive use of internet for revenue generation or relevant content, will also deter broader adoption. Strategies should therefore consider the challenges by categorizing all the issues according to infrastructure, affordability, skills & awareness and local digital content.

## ***2) What rural/urban ratio will apply to the next 1.5 billion and the remaining 2.6 billion to be connected?***

The UN reports that the global population will rise to 9.6 billion by 2050. The majority of this population growth will occur in cities with the result being that 66% of the global population will live in urban areas by 2050. Despite a clear global trend towards increase urbanization, higher levels of network coverage in cities will not, on its own, translate into universal internet adoption among the unconnected. Moreover, the connection ratio is different depending on the nation, region or continent. In the developing world, this ratio differs dramatically between rural and urban areas. In fact, deep rural areas in many developing countries still have poor connections or do not have network coverage.

The commercial rollout of broadband and content-based (value-based) services will focus mainly on the larger urban centres where purchasing power is higher. Due to the infrastructure that is more likely to already exist in urban areas, new rural connections requires more innovative solutions, sustainable products and services, including subsidized devices. Currently many nations with large unconnected rural populations are looking to develop incentive models to help in addressing their remaining digital divide.

## ***3) What are the key investment areas for the next 1.5 billion and the remaining 2.6 billion? What types of business/investment models will drive connection of the next 1.5 billion and do they differ to those for the remaining 2.6 billion?***

Investment will be driven by the potential to generate value, not through traditional voice services, but through new products and service offerings, including content based-services. There is always a high demand for huge capital investment and outlay, and so business models for connecting the next 1.5 billion will possibly be private-sector driven, while more challenging markets may be addressed through a combination of private investment and Public-Private-Partnerships (PPP).

The first key issue is the more challenging network economics which exist in rural and remote areas – where one of the possible solutions becomes network sharing initiatives for operators to share the passive and active elements of their networks. Secondly, the availability of reliable/uninterrupted power and transmission facilities is also a key issue. With the growth of traffic (both voice and data), power consumption also increase. Even though solution providers come with more efficient low power products, however the traffic growth is much higher countering those efficiencies. In addition, transmission line

providers do not always see a benefit in providing capacity in deep rural areas. Third, cross-border fibre-optic network connectivity is crucial for increasing last-mile bandwidth (quality), redundancy (reliability) and adoption (through lower costs and prices) of broadband connectivity in rural and unconnected areas<sup>4</sup>. Connecting the unconnected is everyone's responsibility. Therefore, to get everyone connected, it will be essential to show people that the Internet can make their lives easier, safer, healthier, and better overall.

#### *4) Which region / selection of countries will be connected first and why?*

According to GSMA, mobile broadband connections will account for almost 70% of the global base by 2020, up from just under 40% at the end of 2014, and ten countries will account for 70% of the growth in new mobile subscribers worldwide; specifically six Asian Countries, namely India, China, Indonesia, Pakistan, Bangladesh and Myanmar, will account for 60% of global subscriber growth by 2020 ([Global Mobile Trends, GSMA 2016](#)). Countries in Sub-Saharan Africa, Latin America will also contribute to this growth. While commercial viability and market decisions drive connections to the unconnected, governments and development partners may accelerate measures to overcome the digital divide (demand and supply-side interventions).

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<sup>4</sup> In the case of Asia and the Pacific, the "Asia-Pacific Information Superhighway" initiative was endorsed by 62 Member States in UN ESCAP as a regional framework towards promoting fibre-optic cable network deployment.