

#SMARTer2030

ICT Solutions for 21st Century Challenges



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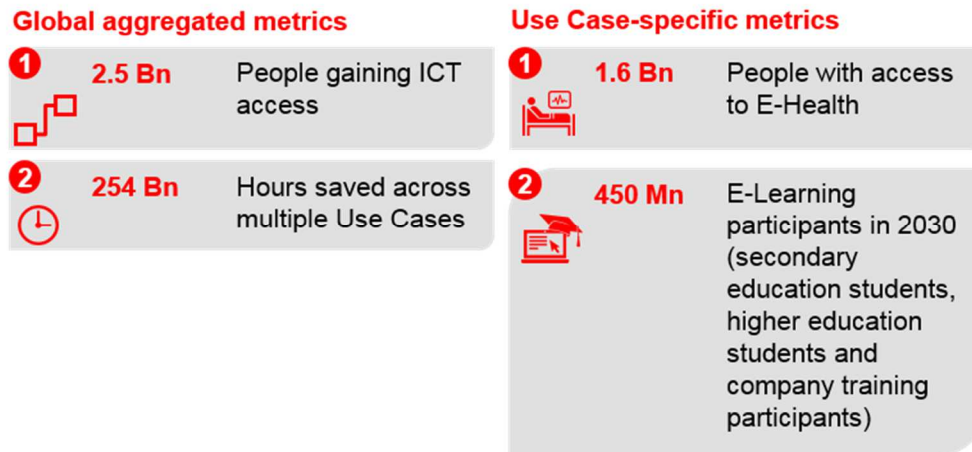
2.4 Social – Boosting incomes, cutting costs and improving lives

Connecting the Unconnected – how ICT can benefit society

Although extreme poverty (people living on less than \$1.25 a day) has decreased from 52% in 1981 to 17% today, we need to go further as we progress towards a projected global population of 8.3 billion people in 2030.

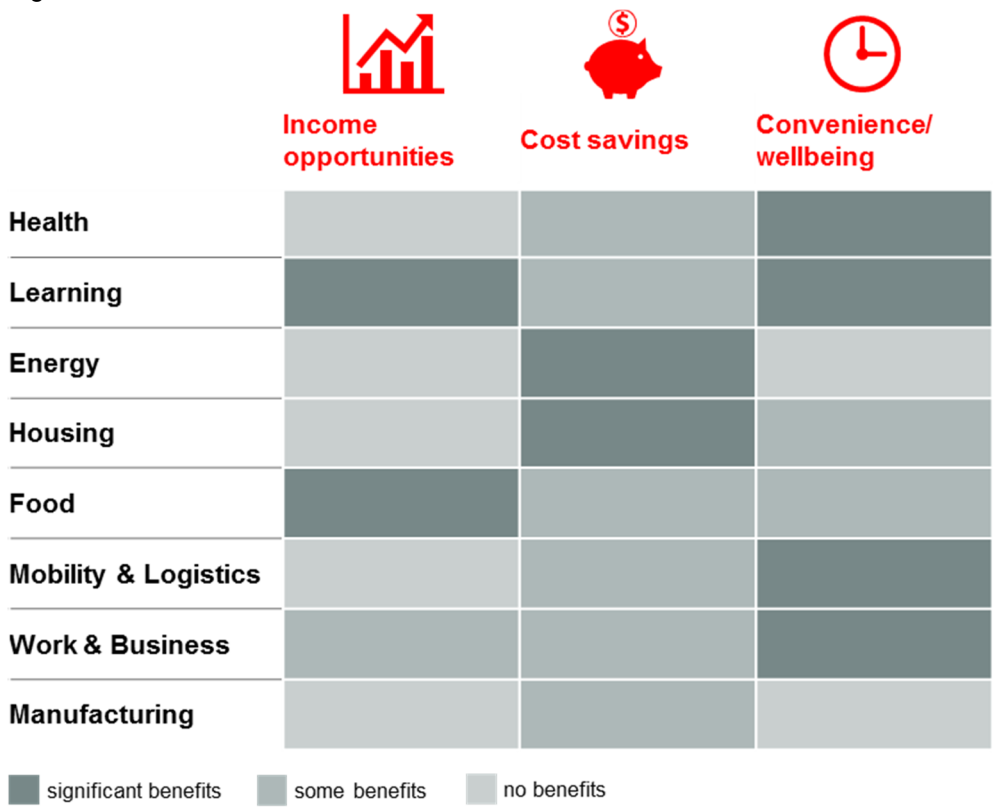
The good news is that ICT can provide a rapidly growing population with access to essential services like healthcare, education and banking in a way that is affordable to even the lowest income groups. As extreme poverty decreases, and smart devices become cheaper, ICT becomes increasingly affordable to people in both the developed and developing world. Our research estimates that, by 2030, ICT could connect 2.5 billion currently unconnected people via smart devices, providing access to services with huge potential to improve their lives. ICT access in the developing world is growing fast, with around 80% of the 2.5 billion additional connections by 2030 projected to come from emerging and developing countries. By 2030, ICT could provide access to E-Health services for 1.6 billion people, engage almost 450 million E-Learning participants and save 254 billion hours across different industries (see Figure below).

Figure 1: Social – Social benefits of ICT-enabled solutions (2030)



For consumers, ICT can enable three basic types of benefits: First, provide access to improved services for increased convenience, participation, etc. Second, provide access to e-services that allow consumers to reduce their expenditure and third, provide access to e-services that allow consumers to increase their income. The figure below highlights the biggest benefit for each sector analyzed. For example, the most significant benefit E-Health can deliver is increased convenience whereas the biggest benefit of E-Learning is the opportunity to increase earnings potential and open up new job opportunities for a person with an e-degree.

Figure 2: Social – Social benefits across sectors



ICT can help to raise income opportunities

ICT solutions can drive income opportunities for people across the world, in particular, we find, through E-Learning and Smart Agriculture.

Increased access to innovative and affordable E-Learning opportunities, accessible remotely, can increase education and literacy levels and generate an additional income of \$0.6 trillion, according to our research. Incomes could rise by 11% on average for those who participate in E-Learning degrees, which could be obtainable, by 2030, in even the most remote places in the world.

At the same time, Smart Agriculture can boost the incomes of farmers by increasing land or crop yield and reducing resource inputs. As real-time data analysis of soil and livestock, fertilizer, nutrition and wholesale market prices rolls out across the developing as well as the developed world, farmers will be able to produce *more* and waste *less*. By generating an average yield increase of 897kg per hectare of land, ICT can help farmers increase their average annual income by \$300.

ICT also has great potential to reduce food waste across the supply chain by making food chains more transparent and providing real-time information on individual products. Less food waste in distribution, transportation and the consumption phase means more food to market, potentially better nutritional outcomes and reduced emissions due to avoided waste.

Additionally – and critically for human development – ICT can improve financial inclusion and drive entrepreneurship through making banking more accessible.¹

ICT can help to cut costs

ICT can help to make essential services more affordable. In particular, health and education are two areas where ICT can cut costs and thereby make access more affordable. For example, a study on the wider socio-economic impact of mobile health found significant cost saving opportunities, including the potential

of mobile health to reduce overall elderly care expenditure by 25% and to cut 50 to 60% of the costs related to hospital nights and re-hospitalizations for patients with chronic conditions.²

For E-Learning, our modeling shows that typical tuition could be reduced by \$1100 per year across a sample of E-Learning offerings, compared to traditional campus-based courses.

ICT can increase convenience and wellbeing

The developments that ICT offers in the transport and mobility sector can bring significant benefits in terms of convenience and well-being. Through optimizing traffic flows, influencing driver behavior, encouraging car or ride sharing and smart logistics solutions, ICT helps people and products move from A to B in the most efficient, clean and safe way. Through E-Work alone, telecommuters can save 100 hours annually. And across all sectors analyzed for this report ICT can help save 250 billion hours allowing people to have additional time at their disposal.

Beyond efficiency gains, ICT can deliver improved wellbeing and participation. For example, our research finds that, by 2030, an additional 1.6 billion people across the globe could benefit from E-Health solutions.

The social benefits of ICT across different development phases

ICT solutions can have a variety of impacts depending on the wealth of the country. In developing countries, poverty and a lack of access to energy, education and healthcare are important issues that ICT can help address.

With megacities on the rise, especially in China and India, urban conditions, infrastructure limitations, and insufficient and expensive housing all form growing challenges. ICT can contribute to addressing them by optimizing traffic flows and urban mobility, providing the efficient transport of goods, reducing air pollution in urban areas and lowering both the footprint and the operational costs of real estate. A further challenge in emerging countries is ensuring sufficient access to food and fresh water. ICT-enabled Smart Agriculture, smart buildings, smart manufacturing and energy solutions can all help increase productivity while reducing inputs.

In developed countries, on the other hand, social participation is generally quite high, with most people already having access to basic services. In these countries, quality, time-efficiency, comfort and convenience are the key aspects to improving quality of life. ICT can contribute to this across a range of sectors.

Case examples of ICT solutions with social benefits

Connecting communities around the world

BT is using ICT and expertise to connect communities around the world to the internet. Worldwide, around 4 billion people are currently unconnected to the internet, of whom more than 90% live in the developing world. Being connected to the internet allows people to increase their social participation and enhance their livelihoods through access to key services such as education, healthcare or social contacts and communities.

Using the BT infrastructure, skills and expertise, BT aims to connect people worldwide and provide them with access to the societal benefits of ICT. For example, through its *Connecting Africa* program, BT has connected 20 locations in nine African countries to the internet via satellites. The *Connecting Africa Medical Centre* program is using ICT to help seven SOS Children's Villages' medical centers improve healthcare provision to around 100,000 people. The plans are to connect six remaining centers by the end of 2015.

By connecting the unconnected and leveraging their skills and knowledge of how to get the most out of technology, BT is able to help provide essential services that could save lives.

¹ The Socio-Economic Impact of Mobile Financial Services, Telenor Group, 2011

² The Socio-Economic Impact of Mobile Health, Telenor, 2012

Emergency.lu - Revolutionizing disaster-response communications through Aid

When natural disasters occur, poor communications infrastructure is one of the biggest challenges facing emergency relief agencies. Aid organizations can dispatch field teams within hours, but without reliable mobile and Internet services, aid workers struggle to share situation reports and ensure that food, medicines, surgical teams, and search teams get where they are needed most. If local networks are down, precious hours are lost, and search missions are negatively affected.

The Government of Luxembourg created a satellite-based telecommunication platform that can be set up in any disaster zone within 24 hours. The hub provides high-quality internet connectivity, voice over IP, tracking and tracing applications, mapping services, and low-bandwidth versions of two Microsoft tools—Skype and Lync—which aid workers can download onsite. The service has transformed disaster-response communications, helping aid agencies from around the world begin rescue and relief operations.



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About GeSI

The Global e-Sustainability Initiative (GeSI) is a strategic partnership of Information and Communication Technology (ICT) companies and organizations committed to creating and promoting technologies and practices to foster economic, environmental and social sustainability. Formed in 2001, GeSI's vision is a sustainable world through responsible, ICT-enabled transformation. GeSI fosters global and open cooperation, informs the public of its members' activities to improve their sustainability performance, and promotes innovative technologies for sustainable development. GeSI's membership includes over 30 of the world's leading ICT companies; the organization also collaborates with a range of international stakeholders committed to ICT sustainability objectives. These partnerships include the United Nations Environment Program (UNEP), the United Nations Framework Convention on Climate Change (UNFCCC), the International Telecommunications Union (ITU), and the World Business Council for Sustainable Development (WBCSD). Such collaborations help shape GeSI's global vision on evolution of the ICT sector, and how it can best meet the challenges of sustainable development. For more information, see www.gesi.org.

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