

#SMARTer2030

ICT Solutions for 21st Century Challenges



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GLOBAL e-SUSTAINABILITY
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3.7 Work and business – The impacts of E-business on working, banking & shopping

The Context – ICT is reshaping individuals' work, banking and consumption practices

ICT solutions have already started to revolutionize the way people work, do business and shop. This will only gain in momentum as more people come online.

In retail, more transactions are now occurring online and retail e-commerce sales worldwide reached \$1.2 trillion in 2013. A growth rate of nearly 20%, with the majority of growth coming from emerging markets¹.

The banking sector has also been an early adopter of online technology and the associated services are now nearing maturity. However, around 2.5 billion people around the world still go without a bank account² and the financial inclusion of such a large group remains a key challenge for mainstream banking.

By 2030, ICT solutions will transform the way in which individuals manage their shopping, banking and work activities. Mainstream transactions will be increasingly virtual and more and more people will use ICT to undertake them.

More generally, many organizations are preparing to transform the way their workplaces are run. Early adopters have set up teleworking for employees, giving them the freedom to work from a remote location while helping the employer save on the costs of office space.

The conventional way of doing business involves high-street or out-of-town shopping, banks opening branches and employees commuting to work in the rush hour. This is a high cost, high emission and increasingly time-wasting set up.

¹ Source: eMarketer (2014)

² <http://edition.cnn.com/2014/11/06/opinion/banking-the-unbanked-mobile-money/>

What is E-Business?

Simply put, E-Business is conventional business undertaken on virtual platforms instead of *in-person*.

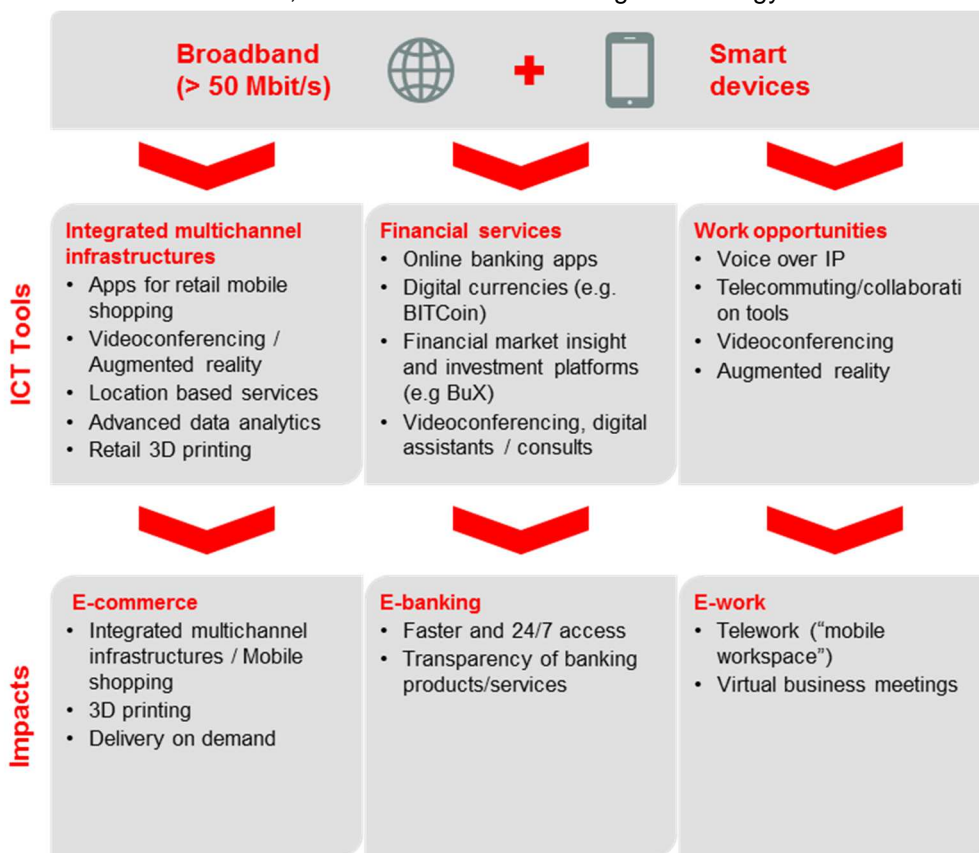
For example, in retail, **e-commerce** means online shopping through secure, cashless, gateways.

In the financial sector, **e-banking** means providing banking products and services through electronic delivery channels like the internet or mobile banking, including the use of mobile money.

E-Business, in simple words, is the sale of products or services using internet as a platform and computerized devices as points of sale.

For organizations, **E-Work**, also known as telework, is the use of cloud-based platforms, connections and smart devices to facilitate and speed up daily office work between co-workers in different locations.

Figure 1: E-Business – Future of E-Work, e-commerce and e-banking: Technology vision for 2030



The use of technology for transforming conventional business practices will help decouple growth from resource consumption.

The Future of E-Business

It is likely that the full, global, roll-out of E-Business at scale will take another decade. However, according to Gartner and Accenture, technologies like mobile commerce, e-invoicing and e-payments could reach global commercial scale in 2017. Nevertheless, it could take until 2025 before every workplace in the world is fully digitally enabled.

By 2030, ICT solutions will enable white-collar workers to work from any-where, anytime and on any device.

Below, we describe more specifically the main developments anticipated in the three main dimensions of e-business.

E-commerce

Integrated multichannel infrastructure: ICT solutions will enable retailers to build integrated infrastructures that deliver a seamless, more sustainable, customer-centric shopping experience across multiple channels.

New online shopping features will include, for example, customizable designs, virtual sizing for clothes as well as virtual shopping assistants that will be able to make recommendations based on previous purchases.

Retail 3D printing: The 3D printing of bespoke items will allow immediate access to goods in all markets. In fact, it might even be developing countries that see the fastest growth of 3-D printing.

Delivery on demand: As internet coverage and smartphone penetration increase, more and more customers across the world will use mobile apps to buy goods and services. And *Delivery on demand* will only be aided by the smart logistics solutions detailed in the chapter ‘**Smart Mobility and Logistics**’.

According to Accenture, E-commerce transactions are likely to increase by 50% by 2030.

E-Banking

Online/mobile banking: Online banking and banking through smart devices will mean the inclusion of millions of additional people in the financial system, providing previously unbanked citizens with the benefits of modern consumer finance. Simple as well as elaborate banking services will make it easier for the formerly excluded to obtain a credit-history, providing the basis for large service providers (operating to higher quality standards) to replace the kind of non-mainstream lenders that have so far dominated developing markets and which tend to offer very high-interest loans. In this way, ICT can help more people borrow at sensible rates with all the economic and social benefits this brings.

By 2030, digital banking and retail business models will deliver more sustainable, customer-centric, cross-channel shopping experiences.

Digital wallet (“mobile money”): Electronic payment systems will eventually make cash redundant, increasing individual security and, quite possibly, reducing fraud. Money transfer systems via mobile phones such as M-Pesa (Vodafone Money Transfer) already enable millions of people to send and receive money (*person-to-person* transactions) and make bill payments (*consumer-to-business* transactions) without having a bank account. Users need only a mobile phone, not a bank account.

E-Work

E-Work offers to significantly improve people’s quality of life, reducing stress and allowing a more flexible *work-life balance*. Instrumental technologies here include:

Telework (“mobile workplace”): The advance of collaboration tools is already permitting teleworkers to work remotely from anywhere. Telework can also help previously marginalized workers like those with disabilities or those with caring duties to take part in the economy in a way that makes the best of their abilities. Likewise, for employers, online collaboration tools allow them to hire workers with the best skills, independent of their location.

Virtual business meetings: Virtual meetings, leveraging videoconferencing and augmented reality technology, are increasingly able to replicate the benefits of physical meetings, saving time and emissions from transport

The Sustainability Impacts of E-Business

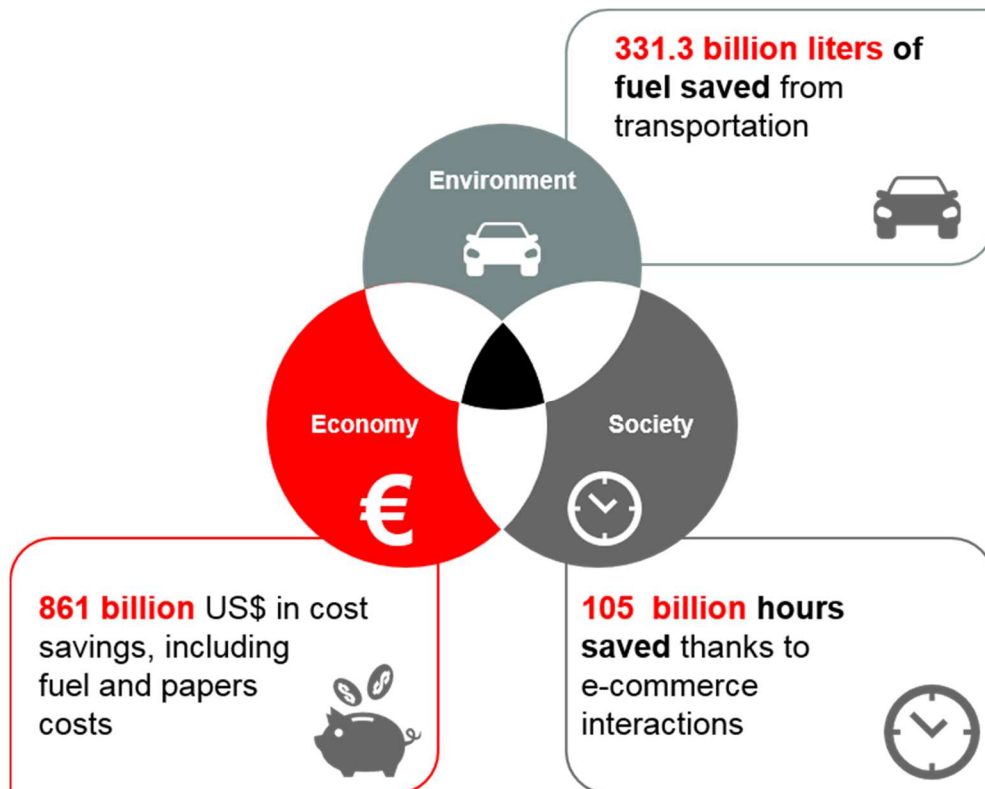
The E-Business solutions we have discussed in this chapter make up 6% (0.6Gt CO_{2e}) of the total abatement potential contributed by the eight sectors covered. This includes:

Savings of around 165 billion liters of fuel

Savings of 388,854 tons of paper

105 billion hours of time saved

Figure 2: E-Business - Benefits of E-Business



Dynamic Workplace – A virtual workplace solution

Provided by Deutsche Telekom (DT), Dynamic Workplace is a user-friendly cloud-based workplace allowing access to virtually any application through a simple web browser. The solution is compatible with any type of device such as notebooks, tablets and smartphones, and is delivered in a secure fashion from a private cloud. Using Dynamic Workplace allows any employee to access all the files, applications and software that they need to work at their convenience from home, a coffee shop, an office abroad or any other environment. The solution is offered on a simple user interface across all devices and provides a self-service portal with integrated workflows.

For a typical company, DT's Dynamic Workplace solution helps employees reduce time spent on commuting to work by on average 56 hours a year. In addition, the solution helps every employee to save over €250 per year due to reduced commuting. For companies, Dynamic Workplace offers significant benefits in terms of emissions reduction, employee cost savings and higher employer attractiveness. In fact, per year a company employing around 35,000 people can save 16,000 tons of CO_{2e} emissions through reduced travel and achieve €15 million in cost savings through reduced idle time and sick days.



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Acknowledgements: The Global e-Sustainability Initiative and Accenture Strategy thank the many experts engaged throughout the duration of this effort for generously providing their time, insights, and feedback to strengthen the quality of this report. A full list of SMARTer2030 team members is listed in the appendix.

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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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Accenture plc. („Accenture”) is a global management consulting, technology services and outsourcing company, with more than 323,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US\$30.0 billion for the fiscal year ended August 31, 2014. Its home page is www.accenture.com.

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