

# **1 Introduction**

Information and Communications Technology (ICT) encompasses all forms of computer and communications equipment and software used to create, design, store, transmit, interpret and manipulate information in its various formats.<sup>1</sup> ICT, particularly the Internet, has been driving innovation, labour productivity, economic growth and the emergence of new business models. It is also rapidly changing our lives and renegotiating the way we work and play.

The development of the ICT landscape has multiple implications on the economy, and the society at large. It is therefore important for us to understand the development of ICT trends, so that we can utilise technology to our advantage and create a strong foundation for economic growth and better living standards.

Developments in the ICT landscape are altering the way we manage and operate our business activities. The early adoption of emerging infocomm technologies is essential for Singapore to sustain its competitive edge to better exploit business and economic opportunities, while a good understanding of these developments leads to the formulation of effective policies to aid business growth and bolster economic competitiveness in the future. Since 2000, IDA has released five editions of the Infocomm Technology Roadmap (ITR), specifically designed to help the industry stay abreast of future trends and developments. Over the years, the ITR has charted the visions, trends and developments of the ICT landscape in Singapore to keep pace with the evolving global landscape. In addition, the series of roadmaps formed a key input to our next national infocomm masterplan.

The series of ITRs has been integral to the success of ICT in Singapore. This edition of the ITR will highlight the possible evolution of key infocomm technologies, as well as, enablers for adoption over the following approximate timeframes: less than 3 years, 3 to 5 years, and 5 to 10 years, with an emphasis on the 3 to 5 year timeframe.

While the ITR aims to provide an outlook of the developments in the ICT sector, it is by no means comprehensive. Instead, the roadmap should be used as a guide to envisage the direction of technological trends and evolution, its enablers and inhibitors to adoption, so that effective strategies can be devised to adapt to landscape changes.

Let us first begin the discussion by looking at some key global driving forces. The knowledge of these global trends is essential in plotting an accurate technology roadmap that takes into consideration our rapidly changing environment, and contextualises the technologies to the consumers.

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<sup>1</sup> The University of Queensland, Australia. What is ICT? [Online] Available from: <http://www.uq.edu.au/ict/what-is-ict> [Accessed 30th July 2012].