



Preface

Special Issue on Cutting-Edge R&D

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A major paradigm shift and business revolution caused by advances in information and communications technology (ICT) is bringing major changes to the environment surrounding us all. Today, a new "hyperconnected world" is emerging in which people, information, things, and processes are interconnected. Along with it, a new era is beginning in which knowledge produced from newly generated information is leveraged, leading to another "industrial revolution. It was inevitable that ICT, as the new social infrastructure, would drive this industrial revolution.

In this revolution, Fujitsu Laboratories has identified ICT megatrends along three axes: people, information, and infrastructure. We are promoting the development of technologies that will lead to business creation along each of these axes. Furthermore, we are undertaking fundamental research necessary for advancing such technologies in the future.

- People: Internet of Things (IoT) devices and high-speed, large-capacity networks from their front-end to their core for interconnecting people to things and information
- Information: Safe and secure intelligent computing interlinked via clouds with artificial intelligence for handling new information and knowledge
- Infrastructure: Integrated ICT infrastructures and operations management software in next-generation clouds for supporting a new digital business platform

We are constructing a massive cloud computing system that combines the real world and digital world, integrating the three domains of these advanced technologies, which have been progressing individually. In this way, we aim to achieve a "hyperconnected cloud" that enables the provision of services, solutions, and new value at any time and in any place.

We are also leveraging advanced ICT to address social issues, such as by developing measures for recovering from natural disasters and preserving social infrastructure. At the same time, we recognize the importance of applying ICT to a wide array of fields including health and medical care, transportation and logistics, food and agriculture, and education with the aim of creating new business opportunities. To this end, we will create new business models that go

beyond traditional industry and business frameworks, and we will focus on applying research to pioneer and grow new business domains.

Additionally, we will operate our global research and development (R&D) sites in a manner that raises the presence of the Fujitsu Group worldwide, advances open innovation, and promotes "act local" activities to target discovery of new business opportunities and expand business fields specific to each region. Through these activities, we aim to link R&D achievements to proof of business (PoB) and proof of concept (PoC) methodologies and to expand worldwide business.

In this special issue, we introduce the R&D vision of Fujitsu Laboratories, our R&D approaches from advanced research to applied research, and the activities at Fujitsu Laboratories' global R&D sites.

The year 2015 marks Fujitsu's 80th anniversary as a company. Innovation is essential to the long-term growth of both enterprises and industries and to the sustainable development of society. To bring about innovation, both invention and new business models are necessary. Fujitsu Laboratories has been promoting the pursuit of invention through its R&D efforts; we will undertake the creation of new business models by applying our R&D achievements. However, it will not be easy to foster innovation solely through our own efforts—we thus aim to work with our customers and business partners to co-create new business opportunities and new markets and contribute to social and economic development in the future.