2019 White Paper on Information and Communications in Japan

Table of Contents

Part 1
Special Theme: Evolving Digital Economy towards "Society 5.0"

Introduction

Introduction 2

1. The Digital Economy, The New Shape of the Economy and Society 2

Chapter 1

How ICT and the Digital Economy Have Evolved 4

Section 1 Looking Back at the History of the Digital Economy in the Heisei Era 4
1. How Did Mobile Communication Services Develop and Expand? 4
2. How has ICT Development and Growth Changed Industry? 8
3. How has ICT Development and Growth Changed the Global Economy? 11

Section 2 Trends in ICT Supporting the Digital Economy 11
1. Current ICT Investment in Japan and the United States 11

Section 3 New Trends in ICT 12
1. Directions for Digital Platform Operators 12
2. Directions for AI 12
3. Directions for Cybersecurity 12

Section 4 Communications and Media in the Digital Economy 13
1. Media Landscape Changes Caused by Internet Growth 13
2. Is Internet Use Polarizing Public Opinion? 14
3. Discussions on Internet Flaming 15
4. The Fake News Trend 16
5. Taking Action on Problems Surrounding Online Communications 16

Chapter 2

Requirements for Achieving the Full Benefits of Society 5.0 17

Section 1 What are the Characteristics of the Digital Economy? 17
1. First Characteristic of the Digital Economy: Data is the Source of Value Creation 17
2. Second Characteristic of the Digital Economy: Enabling Activities that Overcome Time, Location, and Scale Constraints 17
3. Third Characteristic of the Digital Economy: Inevitable Rebuilding of Relationships among Many Entities 18
4. The Digital Transformation: ICT Integration is Coming to All Industries 18

Section 2 What Type of Society Will the Evolution of the Digital Economy Bring? 18
1. Will the Evolution of the Digital Economy Make Society More Abundant? 18
2. How Will the Evolution of the Digital Economy Realize Society 5.0? 19

Section 3 What Kind of Transformations are Necessary for Society 5.0 to Display Its True Value? 20
1. First Necessary Transformation: Redefining the Position of ICT 20
2. Second Necessary Transformation: M&A Initiatives as Open Innovation 20
3. Third Necessary Transformation: Work-style Reforms 21

4. Opportunities for Local Regions During the Evolution of the Digital Economy ····· 21
Section 4 New Relationships between People and ICT ····· 22
1. ICT Acceptance by People ····· 22
2. New Workstyles that Make Use of ICT ····· 23
3. Major Disasters and ICT ····· 26

Part 2
Basic Data and Policy Directions

Chapter 3

Basic Data on the ICT Field ····· 32

Section 1 Economic size of the ICT industry ····· 32
1. ICT Industry Trends ····· 32
2. ICT industry contributions to the national economy ····· 34
3. Trade in the ICT field ····· 34
4. Research and development in the ICT field ····· 35
5. Current State of ICT enterprise operations ····· 36
6. Telecommunication market trends ····· 38
7. Broadcasting market trends ····· 40
8. Content market trends ····· 41
Section 2 ICT Service Usage Trends ····· 44
1. Internet usage trends ····· 44
2. State of provision and usage of telecommunication services ····· 51
3. Provision and use of broadcasting services ····· 55
4. Promoting online government services ····· 56
Section 3 Radio Spectrum Usage Trends ····· 56
1. Usage and number of radio stations ····· 56
2. Radio surveillance to eliminate interference with key radio communications ····· 57

Chapter 4

ICT Policy Directions ····· 59

Section 1 Comprehensive Strategy Promotions ····· 59
1. Promotion of National Strategy ····· 59
2. Promotion of MIC's ICT Comprehensive Strategy ····· 59
Section 2 Developments in Telecommunications Policy ····· 61
1. Comprehensive Verification of Competition Rules in the Telecommunications Business Field ····· 61
2. Ensuring Fair Competition ····· 62
3. Ensuring Safe and Reliable Telecommunications Infrastructure ····· 62
4. Development of Safe and Secure Environments for Use of Telecommunications Services ····· 63
Section 3 Developments in Radio Policy ····· 63
1. Promotion of Effective Radio Spectrum Use ····· 63
2. Radio Usage Advancement and Diversification Initiatives ····· 63
3. Establishment of Radio Usage Environments ····· 64
Section 4 Developments in Broadcasting Policy ····· 64
1. Overseas Expansion of Broadcast Content ····· 64
2. Promoting Development of Broadcast Services ····· 64
3. Improving the Resilience of Broadcast Networks ····· 65
4. Various Issues concerning Broadcasting Policy ····· 65
Section 5 Promoting Cybersecurity Policy ····· 65
1. Examinations of Action Plans for Cybersecurity Measures ····· 65

2. Development of Cybersecurity Policy 65
Section 6 **Promoting ICT Use and Application** 66
1. Policies to Promote the Realization of a Symbiotic Society 66
2. Promoting ICT Application in Education, Medicine, and Other Fields 66
3. Development of Policies for Local Development Using ICT Infrastructure 67
4. Creating Environments Where Everyone Can Enjoy Convenience through ICT 68
Section 7 **Promoting ICT Research and Development** 69
1. Promoting Research and Development Strategies 69
2. Enhancing Research and Development to Realize Cutting-Edge ICT in All Aspects of Society 69
3. Assistance for Creating Innovation Using Competitive Funding 69
4. Promoting Public Implementation of R&D Findings 70
5. Other Research and Development Programs 70
Section 8 **Promoting International Strategies for ICT** 70
1. Prioritized Promotion Themes for International Policy 70
2. Initiatives at International Frameworks 71
Section 9 **Promoting Public Administration and Disaster Prevention through ICT** 71
1. Promoting e-Government 71
2. Promoting Informatization in the Government Disaster-Resilience Field 72
Section 10 **Developments in Postal Service Administration** 72
1. Promoting Postal Service Administration in the International Field 72
2. Promoting the Correspondence Delivery Business 72