# 2021 White Paper on Information and Communications in Japan

## **Table of Contents**

### Part 1

Special Theme: Livelihood and Economy Supported by Digital Technologies

Introduction				
History of Digitalization in Japan	2			
1. History of Japan's Digitalization Policy				
2. Progress of Digitalization of Japanese Society				
3. Digitalization of Japan Assessed based on International Indices				
4. Causes of Japan's Delay in Digitalization				
Chapter 1				
Present Status and Challenges for Digitalization	7			
Section 1 Present Status and Challenges for Digital Utilization in Citizen's Lives	7			
1. Present Status of Use of Digital Technologies	7			
2. Expectation for Utilization of Digital Technologies	9			
3. Cautious Views Concerning Whether Utilization of Digital Technologies Will Continue				
4. Challenges for Utilization of Digital Technologies 11				
5. Summary 12	2			
Section 2 Present Status and Challenges for Digital Transformation in Corporate Activities 45	3			
1. Productivity improvement through digitalization 13	3			
2. Digital Transformation Again Attracts Attention 14				
3. Toward Practice of Digital Transformation 15				
4. Actual Status of Digital Transformation Based on Questionnaire Results 15				
5. Changes Necessary for Digital Transformation	9			
Section 3 Present status and challenges for digitalization in public sector	9			
1. Japan's Efforts for Digital Government 20	0			
2. Current State of Issues and Precedents	3			
3. Efforts Necessary for Construction of Digital Government in the Future 26	6			
Chapter 2				
Digitalization Accelerated by the COVID-19 Pandemic	7			
Section 1 Digital Utilization Expansion under COVID-19	7			
1. COVID-19 Pandemic 27	7			
2. Impact of the COVID-19 Pandemic on Society and Economy 27	7			
3. Changes in Consumption Behavior through Utilization of Digital Technologies 27	7			
Section 2 Public Sector's Digital Utilization under the COVID-19 Pandemic	0			
1. Public Administration	0			
2. Educational Field	1			
3. Medical Field ······ 33	3			
Section 3 Corporate Activity Changes under the COVID-19 Pandemic	4			

2. Relocation of Production Bases in Response to Fragmentation of Supply Chains 35
3. Trends of Listed Enterprises in Japan and the United States - ICT-related Enterprises Are
Driving Performance Recovery 35
4. Working Style (Telework) 36
Section 4 Challenges Surfaced through Utilization of Digital Technologies Under the COVID-19 Pandemic 38
1. Response to Security Risk 38
2. Need for Literacy Improvement ····································
3. Handling of Digital Data ······ 38
4. Enhancement of Communication Infrastructure
5. Correction of Disparities due to Geographical Conditions, etc. and Securing of Accessibility
6. Reviewing Operations/Customs on the Premise of Digitalization

#### Chapter 3

Toward Realizing Digital Transformation that "Leaves No One Behind"				
1. Vision of the Society We Need after the Pandemic	<b>.</b> 40			
2. Contribution of Digital Technologies to the Solutions of Social/Economic Challenges	·· 40			
3. Promotion of Digitalization that "Leaves No One Behind"	·• 41			
4. Toward Establishment of Digitalization after the COVID-19 Pandemic	·• 42			

# Part 2 Basic Data and Policy Directions

### Chapter 4

Basic Data on the ICT Field 44
Section 1 ICT Industry Trends
1. Economic size of the ICT industry 44
2. ICT industry contributions to the national economy 46
3. Exports and Imports in the ICT field 47
4. Research and development in the ICT field 47
5. State of ICT enterprise operations 48
6. Telecommunication market trends 50
7. Broadcasting market trends 51
8. Content market trends 51
Section 2 ICT Service Usage Trends 54
1. Internet usage trends
2. State of provision and usage of telecommunication services
3. State of provision and usage of broadcasting services
4. State of informatization in government services 64
Section 3 Radio Spectrum Usage Trends 65
1. State of Usage and number of radio stations
2. Radio monitoring to eliminate interference with important radio communications
Chanter 5

ICT Policy Directions	67
Section 1 Promoting Comprehensive Strategy	67
1. Promoting National Strategies ·····	67
2. Promoting MIC's ICT Comprehensive Strategy	67

2	Section 2	Developments in Telecommunications Policy	····• 67
		suring Fair Competition	
		moting Development of Broadband Infrastructure	
		suring Safe and Reliable Telecommunications Infrastructure	
		veloping Safe and Secure Environments for Use of Telecommunications Services	
2		Developments in Radio Policy	
		moting Effective Radio Spectrum Use	
		lio Usage Advancement and Diversification Initiatives	
	3. Est	ablishment of Radio Usage Environments ·····	···· 70
2	Section 4	Developments in Broadcasting Policy	····· 70
		sirable State of Public Broadcasting	
	2. Str	engthening the Foundation of Broadcasting Businesses	····· 70
		moting Broadcast Content Circulation	
		proving the Resilience of Broadcast Networks and Enhancing Their Disaster Resistance	
2	Section 5	Promoting Cybersecurity Measures	····· 71
	1. Exa	aminations of Action Plans for Cybersecurity Measures	71
		hancing Cybersecurity Measures	
2	Section 6	Promoting IoT/ICT Use and Application	····· 72
		blem-solving Using Advanced Technologies	
		eating Environments Where Everyone Can Enjoy Convenience through ICT	
		moting Data Circulation	
2	Section 7	Promoting ICT Research and Development	···· 74
	1. Pro	moting Research and Development Strategies	····· 74
		hancing Research and Development to Realize Cutting-Edge ICT in All Aspects of Society	
	3. Ass	sistance for Creating Innovation Using Competitive Funding	··· <b>··</b> 75
		R&D Program in International Cooperation	
	5. Pro	moting Public Implementation of R&D Findings	····· 75
		er Research and Development Programs	
2		Promoting International Strategies for ICT	
		oritized Promotion Themes for International Policy	
		iatives in International Frameworks	
2	Section 9	Promoting Public Administration and Disaster Prevention through ICT	···· 76
		moting Digitalization of Local Governments	
	2. Pro	moting Informatization in the Disaster Preparedness Field	
9	Section 10	Developments in Postal Service Administration	····· 77
	1. Pro	moting Postal Service Administration	77
	2. Pro	moting Postal Service Administration in the International Field	78
	3. Pro	moting the Correspondence Delivery Business	78