Continuous Growth with Sustainable Superior Profits

Anritsu Corporation May, 2020





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# Agenda

#### I. Mid term Business Plan GLP2020 and Business Strategy

- 1. Basic Policy of Management Strategy
- 2. Outline of our business segments
- 3. Basic Policy of medium and long term business strategy
- 4. Set out for Beyond2020

#### **I**. T&M business segment

- 1. T&M: Profit structure improvement targets
- 2. T&M : Mobile market trends and Business opportunity
- 3. Industrial Test Solutions
- 4. Network Reshaping Test Solutions

#### **III. PQA Business segment**

- **IV-1.** Financial Strategy
- **IV-2. Shareholder Return Policy**
- **IV-3.** Corporate Philosophy and Sustainability Policy
- **IV-4.** Corporate Governance System
- **IV-5.** Introduction to the Advanced Technology Development Lab
- V. Financial Results for the Fiscal Year ending March 31, 2020

# I. Mid term Business Plan GLP2020 and Business Strategy



 Creating the value that only Anritsu can deliver Building a world-class, robust income structure To create new business through emerging business

Driving innovation in new business areas

# I -2. Outline of our business segments



T&M: Test & Measurement PQA : Products Quality Assurance



# I -3. Basic Policy of medium and long term business strategy

### Capture growth drivers without fail, and realize "continuous profitable growth"

	Market average		Medium & long –term guideline	
	annual growth rate (estimated by Anritsu)	Vision / growth driver	Sales growth rate	Operating margin
T&M	3-5%	Become a leading company supporting 5G/IoT society (1) 5G, LTE-Advanced (2) IoT/Automotive, Connectivity (3) IP Data traffic/Cloud Services	≧7%	≧20%
PQA	3-5%	Become a world-class partner in quality assurance solution Expansion from contaminant inspection into the quality assurance market	≧7%	≧12%
Consolidated			—	≧18%
ROE	—	_	≧1	5%

### I -3-1. GLP2020 : Revenue and Op. profit Plan (1/2) GLP2020

Indicators		FY2018(Act)	FY2019(Act)	FY2020(Plan)	FY2020*
Revenue		99.7 B Yen	107.0 B Yen	110.0 B Yen	105.0 B Yen
OP. profit		11.2 B Yen	17.4 B Yen	17.5 B Yen	14.5 B Yen
Op. margin		11 %	16 %	16 %	14 %
Profit		9.0 B Yen	13.4 B Yen	13.5 B Yen	11.0 B Yen
ROE		11 %	15 %	14 %	12 %
T&M	Revenue	68.2 B Yen	75.2 B Yen	77.0 B Yen	70.0 B Yen
	Op. profit	9.4 B Yen	15.1 B Yen	15.5 B Yen	10.0 B Yen
	Op. margin	14 %	20 %	20 %	14 %
PQA	Revenue	23.1 B Yen	22.6 B Yen	24.0 B Yen	26.0 B Yen
	Op. profit	1.6 B Yen	1.3 B Yen	1.8 B Yen	3.0 B Yen
	Op. margin	7 %	6 %	8 %	12 %
					*Plan as of April 2018

(Note) Exchange rate for GLP2020 : 1USD=105Yen, 1Euro=125Yen)

I -3-2. GLP2020 : Revenue and Op. profit Plan (2/2)



#### Beyond I -3-3. GLP2020 Progress Status in T&M Business



FY2020 Initiatives

Capture growth opportunities by focusing on boosting competitiveness in 5G business

- Enhance global development framework and customer support system
- Promote conformance test system business

(Note) Anritsu group announced the FY2020 Forecast on April 27th, 2020.



2020

# I -3-4. GLP2020 Progress Status in PQA Business





**FY2020 Initiatives** 

- Strengthen sales bases in Americas and Europe
- Promote shift to platform solutions

(Note) Anritsu group announced the FY2020 Forecast on April 27th, 2020.

Japan	
Americas	
EMEA	
Asia	



### **Resolve social issues by realizing Beyond 2020**

### **II. T&M business segment**

II -1. T&M : Profit structure improvement targets



#### **Cost structure improvement measures**

- Introduction of high value added solutions (professional services, software)
- Thorough enforcement of development ROI & ROIC management (\*1)
- SG&A expenses: Organizational structure and optimal allocation of human resources in response to changes in customer trends

\*1:KPI target index for R&D investments is an R&D ROI(gross profit / R&D investment value) of 4.0times or higher.



**INCITSU** envision : ensure

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# II -2-1. Roadmap of 5G

\* Created by Anritsu referring to publicly available information



### II -2-2. Increased investment aimed at 5G commercialization in China

\* Created by Anritsu referring to publicly available information



/Inritsu

envision: ensure

### II -2-3. 5G terminal development/manufacturing process and test solutions



### II -2-4. 5G Test Solutions Conformance Test



### II -2-5. Mobile R&D business and solutions (The case of LTE)

	Platform(Core)	Conformance test		Operator	Smartphone
	Development	RF	Protocol	Acceptance test	Commercial test
Uses	Comm. standard development Chipset development	Conformance test Interoperability test		Comm. Carrier acceptance test	Application development UE operation test
Main customers	Chipset vendor UE vendor	Chipset vendor, UE Communication Car		Com Carrier, Test house, UE vendor	UE vendor Applications developer
Main theme	<ul> <li>FDD / TDD-LTE, LTE-Advanced, LTE-Advanced PRO</li> <li>CA (Carrier aggregation), VoLTE (Voice over LTE)</li> <li>MIMO (Multi Input Multi Output)</li> <li>Chipset unification of 3G/LTE and SRW (Short Range Wireless)</li> </ul>			<ul> <li>Improve data throughput</li> <li>Battery consumption etc.</li> </ul>	
Test solutions					
Main Competitors	Anritsu : No. Rohde & S	j	Rohde & Schwarz, Keysight(Agilent, Anite), Spirent		Rohde & Schwarz, Keysight



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### II -2-7. Contributing to the establishment of 5G network infrastructure



### II -2-8. 5G will become the infrastructure of social innovation



### II -2-9. Outlook for 5G Service Development



### II -2-10. 5G and LTE coexist and interwork

#### **5G = LTE Enhancements + Next-Generation Wireless Technologies**



### II -2-11. 5G Band Allocations in the World



II -2-12. Solutions for 5G chipset/device development

### We have begun shipments of the Radio Communication Test Station MT8000A for development of chipsets, devices, etc. for the 5G market



### II -2-13. Role of MT8000A



II -2-14. High-frequency (millimeter wave) measurement technology



#### For high-frequency (millimeter wave)

Accurate measurements are possible with Over The Air (OTA) using chamber.



# II -2-15. Test solution for 5G NSA-NR terminal development



# II -2-16. Anritsu's Solution for 5G base stations and terminals



MS2850A Signal Analyzer

Signal analyzer that realizes millimeter-wave measurement solutions required for R&D and manufacture of 5G base stations and terminals at unprecedented low prices Frequency range : 9 kHz~32 GHz/44.5 GHz Analysis bandwidth : 255 MHz (standard), 510 MHz(option), 1GHz (option)

#### **Conventional Signal Analyzer for LTE**



- Frequency is mainly 6GHz or less
- Analysis bandwidth is 20MHz to several hundred MHz

#### Signal Analyzer for 5G



- Covers frequency up to 44.5GHz
- Coverage of analysis bandwidth is up to 1GHz
- Low price enables installation for commercial development and manufacture

# II -2-17. 5G Test Solutions Base-Station Installation and Maintenance

#### 5G NR Base-Station Field Performance Measurements and Coverage Mapping

#### Field Master Pro MS2090A

- Frequency Range: 9 kHz to 9/14/20/26.5/32/43.5/54 GHz
- Supports RF measurements of GSM, LTE, and 5G base stations, as well as 5G demods.
- TX spurious up to 54 GHz

#### Usage: 5G NR Base Station Measurement 3GPP TS 38.104 V15 gNB Base Station Performance Evaluation

- · Frequency error · Occupied bandwidth
- · Time offset · Adjacent channel leakage ratio
- $\cdot$  Cell/Sector ID  $\cdot$  Tx spurious up to 12.75 GHz
- · Modulation quality · EIRP
- · Unwanted emissions · Synchronization Signal Block (SSB)
- · FR1 & FR2 · Up to 64 beams supported

#### Usage: 5G Coverage Mapping

Plot indoor and outdoor coverage maps from 5G NR gNB. Displayed measurements include channel power, EIRP, and RSRP.

# II -2-18. Acquisition of Azimuth Systems, Inc.

- Company Name : Azimuth Systems, Inc.
- Headquarters : Boston, USA



Main customers : Operators, chipset vendors, network equipment vendors,

UE vendors, etc. in the Americas, EMEA, Asia, and Japan



**Anritsu** 

envision · ensu

Mobile Devices

Protocol Technology

Azímuth.

Network Infra.

**RF** Technology

Sep, 2016

### II -2-19. Food chain and players in mobile telecom market



# II -3. Industrial Test Solutions

Expand Earnings Opportunities by Supporting the Creation of New Markets and Various Industrial Fields through the Utilization of 5G


### II -3-1. Manufacturing solutions for Smart phone



#### **Current features**

- Huawei, Vivo, Oppo The rise of China vendors and intensifying competition ( )
- 2. The growth of the manufacturing market in India

#### Solutions for 2G / 3G / LTE & Connectivity



#### Smartphone Shipment Market Share in China by Vendor \*



\*Source : Gartner "Market Share: PCs, Ultramobiles and Mobile Phones, All Countries, 2Q18 Update" 24 Aug. 2018 Smartphone = Basic Phone, Premium Phone, Utility Phone OS=Excluding WindowsRT and Proprietary Graph created by Anritsu based on Gartner research

#### **Main Competitors**

#### Rohde & Schwarz, Keysight

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### II -3-2. R&D solutions for Smart Devices for IoT



### II -3-3. Manufacturing solutions for Smart Devices for IoT



**Main Competitors** 

Teradyne, National Instruments, Rohde & Schwarz, Keysight



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### II -3-5. Food chain and players in Automotive market

### Safety , Emergency , Comfort , Infotainment , Diagnostic

Car Vendors	Dashboard	Module	Chipset
	Vendors	Vendors	Vendors
Autonomous car ADAS (Advanced Driver Assistance System) <b>Telematics</b> (Telecommunication + Informatics) <b>ITS C-ITS</b> (Intelligent Transport Systems)	Transceiver module (Cellular + V2X + Connectivity + Antenna + etc. ) Rader module Antenna Satellite receiver Tuner	Cellular module , Connectivity module , V2X module , Rader , Antenna , Connector , Cable , etc	Semi- conductors for communi- cation



#### II -4-1. Test Solutions for support of Cloud Service expanding Data traffic extending explosively 20 15.327% CAGR 12.9 (Zettabytes 2015-2020 10.8 per Year) 8.6 **Data Center** 6.5 104.7 **Expansion of Data Center** Higher- speed Larger- capacity 0 **Conversion to fiber** optics 2015 2016 2017 2018 2019 2020 DCI **Global Data Center Traffic Growth Data Center High speed communication** Source: Cisco Global Index 2015-2020 10G/40GbitE→100G/200/400GbitE **Main Competitors** Keysight Manufacturing, I&M Equipment (Router, Switch) vendors in Data Center R&D **Optical module** vendors **Optical device** vendors

### **III. PQA Business segment**

### III-1. PQA business segments (Products Quality Assurance)



III-2-1. The growing PQA business < PQA >



	North America, EMEA, Asia	Develop market with X-ray inspection systems as a key solution
	Japan	Improve market share through quality assurance solutions with high added value
Japan		in response to cutting-edge needs

**Main Competitors** 

#### Mettler-Toledo, Ishida, Marel

\*Anritsu group announced the FY2020 Forecast on April 27th, 2020.

III-2-2. PQA Business: Current Status of the PQA Market and Outlook



### IV-1. Financial Strategy



### IV-1-1. GLP2020 : Financial strategy

#### **Basic policy**

Improve corporate value KPI (ACE & ROE) through growth investment (including M&As) with a return of more than 7% of equity cost and capital efficiency improvements

\* ACE (Anritsu Capital-cost Evaluation) :Operating income after tax-Capital Cost (WACC,5%)



### IV-2. Shareholder Return Policy

### Dividend Policy

Distribute profits in accordance with its consolidated performance(Net profit) and by taking into account the total return

- Take the basic approach of raising dividends on equity (DOE) in accordance with the increase in consolidated profits for the fiscal year
- 2. Aim at a consolidated dividend payout ratio of 30 percent or more

3. Flexibly provide shareholder returns taking into account the total return ratio

### IV-2-1. Dividend forecast

### Annual dividend

	Dividend per share	Profit	Payout ratio	DOE	ROE
FY2020 (Forecast)	31 yen	13.5 B yen	31.6%	4.4%	14%
FY2019 (Plan)	31 yen	13.4 B yen	31.9%	4.7%	14.9%



### **IV-3**. Corporate Philosophy and Sustainability Policy

#### **Company Philosophy**

Contribute to the development of a safe, secure, and prosperous global society by offering Original & High Level products and services with sincerity, harmony, and enthusiasm.

#### **Company Vision**

Achieve continuous growth with sustainable superior profits through innovation, using all knowledge of all parties and contribute to the sustainability of society.

#### Sustainability Policy

- 1.We will contribute to building a safe, secure, and comfortable society through our business activities, based on our long-term vision.
- 2.We will maintain harmony with the global socio-economy and society through ethical company activities.
- 3.We will contribute to the preservation of the global environment by promoting environmental management for the coexistence of people and nature.
- 4.We will build strong partnerships by promoting communication with all stakeholders.

### IV-3-1. Set sustainability management as our axis



### IV-3-2. Sustainability Goals(SDGs)

#### Social Issues We Address through Our Business Activities

#### **Anritsu Group**

Contribute to the promotion of innovations and an industrial structure that builds a sustainable society, and creation of safe and secure infrastructure



#### T&M

Contribute to building a sustainable society through the maintenance of a robust network linking all things related to safety and security



#### **PQA business**

Contribute to realizing a sustainable society and in which everyone can live with a sense of safety and security and in which food loss is minimized by enhancing Products Quality Assurance for food and pharmaceuticals



#### Challenges to meet the needs of society (ESG)

#### Maintaining Harmony with the Global Socio-Economy

Together with diverse Human resources, we seek to contribute to the creation of workplaces where each individual can achieve personal growth and experience job satisfaction.



#### **Promoting Global Environmental Protection**

Contributing to the creation of a society with sustainable consumption and sustainable corporate production practices.



#### **Expanding and Strengthening Governance**

Ensuring ethical corporate activities through risk management and fair, quick, and effective decision making



### The Creation of Shared Value through the Promotion of Communication

Contributing to the creation of shared value with collaboration among all stakeholders



#### 

### IV-4. Corporate Governance System

For improving competitiveness and continuously enhancing corporate value



### IV-5. Introduction to the Advanced Technology Development Lab

### 6G(Beyond 5G)

- 100+ GHz component development
- Radio interference monitoring technology



# Next-generation technology acquisition

 Realization of "NEMS\*", which have high potential for use in ultrasensitive sensors



\* NEMS (Nano Electro Mechanical Systems), are devices with nmorder mechanical structures, which are even more compact than semiconductor processing technology, MEMS (Micro Electro Mechanical Systems).

# V. Financial Results for the Fiscal Year ending March 31, 2020

Note :The announced on April 27th, 2020

# V-1. Consolidated performance - Financial results -

Year-on-year growth in revenue and profit

Unit: Billion Yen

International Financial Reporting Standards (IFRS)	FY2018 (Apr. to Mar.)	FY2019 (Apr. to Mar.)	YoY	YoY (%)
Order Intake	100.8	107.7	6.9	7%
Revenue	99.7	107.0	7.3	7%
Operating profit (loss)	11.2	17.4	6.2	55%
Profit (loss) before tax	11.4	17.2	5.8	51%
Profit (loss)	9.0	13.4	4.4	49%
Comprehensive income	9.4	11.9	2.5	27%

Note : Numbers are rounded off to the first decimal place in each column.

# V-2. Consolidated performance - Results by business segment -

T&M: 5G development demand is strong, especially in Asia

Unit: Billion Yen

Internationa Reporting St	l Financial tandards (IFRS)	FY2018 (Apr. to Mar.)	FY2019 (Apr. to Mar.)	YoY	YoY (%)
T&M	Revenue	68.2	75.2	7.0	10%
TQIVI	Op. profit (loss)	9.4	15.1	5.7	61%
PQA	Revenue	23.1	22.6	(0.5)	-2%
FQA	Op. profit (loss)	1.6	1.3	(0.3)	<b>-20%</b>
Others	Revenue	8.4	9.3	0.9	10%
Others	Op. profit (loss)	1.1	1.9	0.8	66%
Adjustment	Op. profit (loss)	(0.9)	(0.9)	0.0	-
Total	Revenue	99.7	107.0	7.3	7%
Total	Op. profit (loss)	11.2	17.4	6.2	55%

Note1 : Numbers are rounded off to the first decimal place in each column.

Note2 : Adjustment includes elimination of inter-segment transactions and non distributed company-wide expenses of each business segment.

T&M: Test & Measurement PQA : Products Quality Assurance

# V-3. Consolidated performance - Revenue and Op. profit by quarters -

4Q(Jan.-Mar.) Operating margin : Consolidated20%, T&M25% ,PQA9%



Note : Numbers are rounded off to the first decimal place in each column.

# V-4. Overview of operations by business segment

Segment	FY2019 (April to March, 2020)			
<b>T&amp;M</b> : Steady progress of 5G commercialization schedule				
LTE		Continued curbing and reduction of investment in LTE-A		
Mobile	5G	5G development demand remains steady		
Network Infrastructure 5G infrastructure investment grew				
Asia Expansion in investment aimed at 5G commercialization				
Americas	Greater focus on 5G service area expansion			
<b>PQA</b> : Strong investment by food market for quality assurance, automation, and labor saving both in Japan and overseas				
T&M: Test & Measurement PQA : Products Quality Assurance				



Note : Numbers are rounded off to the first decimal place in each column.

# V-6. Transition of Revenue by region

Revenue rose year on year in Asia and Japan, backed by strong 5G demand



Note : Numbers are rounded off to the first decimal place in each column.

## V-7. Cash Flow



# V-8. Forecast for full year of FY2020 (Consolidated)

The market will stagnate during the first half of the year due to COVID-19

Unit: Billion Yen

		FY2019		FY2020	
		Actual	Forecast	YoY	YoY(%)
Revenue		107.0	110.0	3.0	3%
Operating profi	Operating profit (loss)		17.5	0.1	0%
Profit (loss) befo	ore tax	17.2	17.2 17.5 0.3 2		2%
Profit (loss)		13.4	13.5	0.1	1%
	Revenue	75.2	77.0	1.8	2%
T&M	Op. profit (loss)	15.1	15.5	0.4	2%
PQA	Revenue	22.6	24.0	1.4	<b>6%</b>
	Op. profit (loss)	1.3	1.8	0.5	40%
Others	Revenue	9.3	9.0	(0.3)	-3%
	Op. profit (loss)	1.9	1.2	(0.7)	-37%
Adjustment	Op. profit (loss)	(0.9)	(1.0)	(0.1)	-

Note : Numbers are rounded off to the first decimal place in each column.

Reference : Exchange rate : FY2019 (Actual) 1USD=109yen, 1EURO=121 yen

FY2020 (Forecast) 1USD=105 yen, 1EURO=120yen



