Continuous Growth with Sustainable Superior Profits

Anritsu Corporation



TSE code : 6754 https://www.anritsu.com





Cautionary Statement

All information contained in this release which pertains to the current plans, estimates, strategies and beliefs of Anritsu Corporation (hereafter "Anritsu") that is not historical fact shall be considered forward-looking statements of future business results or other forward-looking projections pertinent to the business of Anritsu. Implicit in reliance on these and all future projections is the unavoidable risk, caused by the existence of uncertainties about future events, that any and all suggested projections may not, come to pass. Forward-looking statements include but are not limited to those using words such as "believe", "expect", "plans", "strategy", "prospects", "forecast", "estimate", "project", "anticipate", "may" or "might" and words of similar meaning in connection with a discussion of future operations or financial performance.

Actual business results are the outcome of a number of unknown variables and may substantially differ from the figures projected herein.

Factors which may affect the actual business results include but are not limited to the economic situation in the geographic areas in which Anritsu conducts business, including but not limited to, Japan, Americas, Asia, and Europe, changes in actual demand for Anritsu products and services, increases or decreases in the competitive nature of markets in which Anritsu sells products or buys supplies, changing aptitudes at providing services, and exchange rates.

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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**
- V. Financial Results for the 2nd quarter of the Fiscal Year ending March 31, 2020

I. Mid term Business Plan GLP2020 and

Business Strategy





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I -2. Outline of our business segments

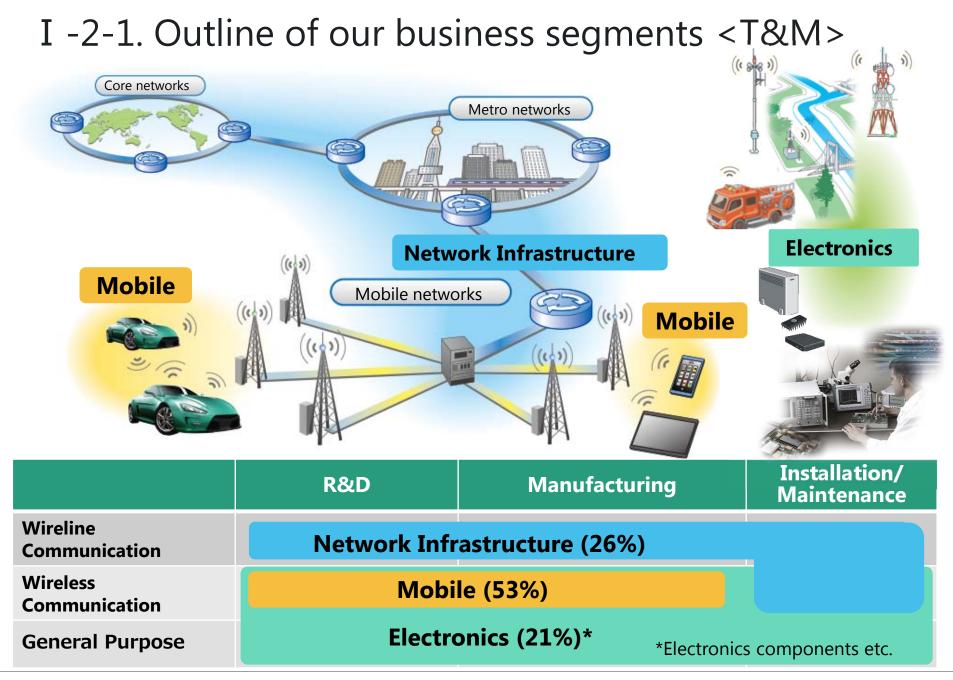
PQA T&M **Others** Food Safety and security **Evolution and advances of networked society** IP network X-ray inspection equipment Mobile : 5G, LTE systems \triangleright Opt. devices Metal Detector Network Infrastructure : Wired, Wireless NW Checkweighers Electronics : Electronics parts, Wireless Equipment

(Revenue by business segment) 99.7 Billion Yen consolidated revenue in FY2018

	T&M 6	PQA	Others		
Mob 539		Network Infrastructure 26%	Electronics 21%	23%	9%
(Sales of T&M	business by re				
Japan 19%	Asia & Pacific 33%		Americas 32%		EMEA 16%

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

 \triangleright



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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)

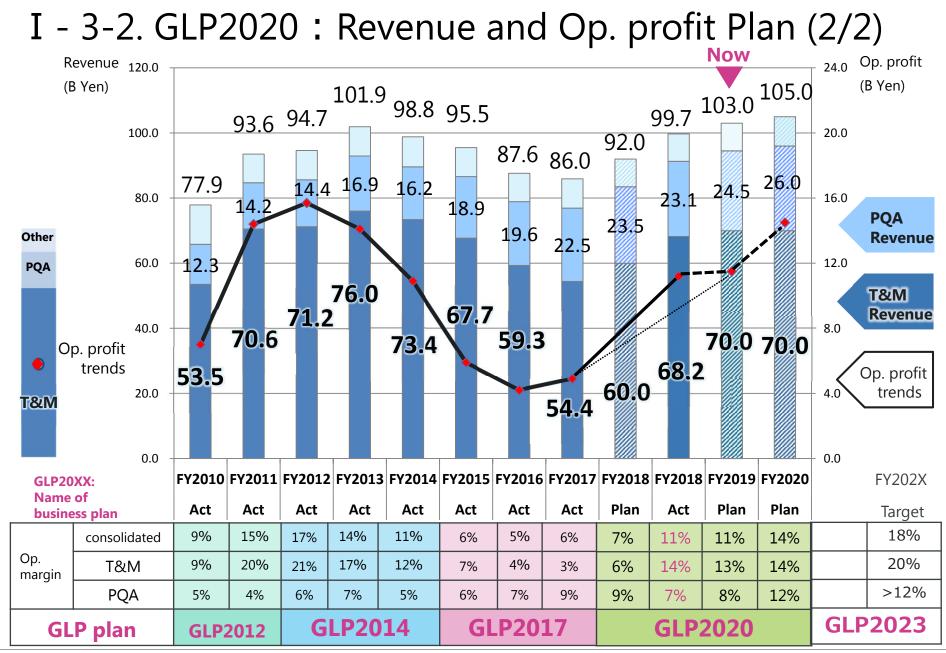
GLP2020

Indicators		FY2018 (Initial Plan)	FY2018(Act)	FY2019(*)	FY2020	
Revenue		92.0 B Yen	99.7 B Yen	103.0B Yen	105.0 B Yen	
OP. profit		6.6 B Yen	11.2 B Yen	11.5 B Yen	14.5 B Yen	
Op. margin		7 %	11%	11%	14 %	
Profit		5.0 B Yen	9.0 B Yen	8.5 B Yen	11.0 B Yen	
ROE		7%	11%	10%	12%	
	Revenue	60.0 B Yen	68.2 B Yen	70.0 B Yen	70.0 B Yen	
T&M	Op. profit	3.5 B Yen	9.4 B Yen	9.5 B Yen	10.0 B Yen	
	Op. margin	6 %	14 %	13 %	14 %	
	Revenue	23.5 B Yen	23.1 B Yen	24.5 B Yen	26.0 B Yen	
PQA	Op. profit	2.0 B Yen	1.6 B Yen	2.0 B Yen	3.0 B Yen	
	Op. margin	9 %	7 %	8 %	12 %	

*Anritsu group announced the revised FY2019 Forecast on October 30th, 2019.

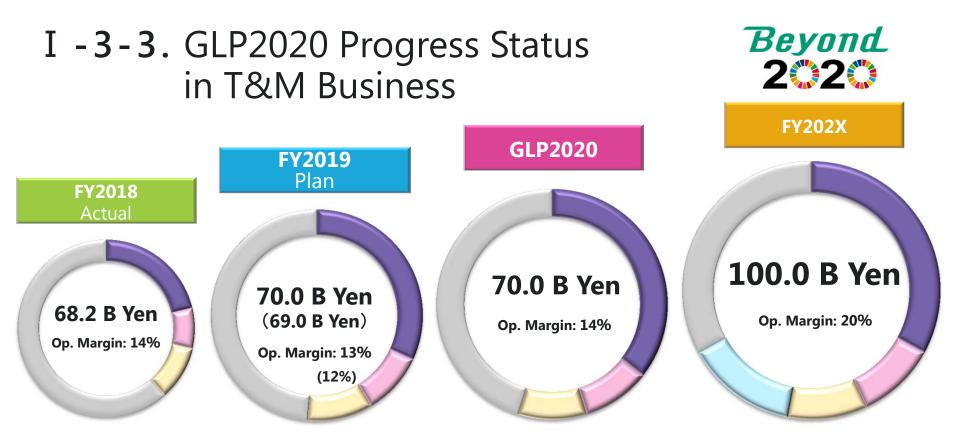
(Note) Exchange rate for GLP2020 : 1USD=105Yen, 1Euro=125Yen)





(Note) Anritsu group announced the revised FY2019 Forecast on October 30th, 2019.

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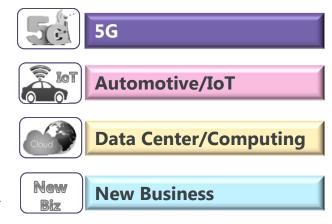


FY2019 Initiatives

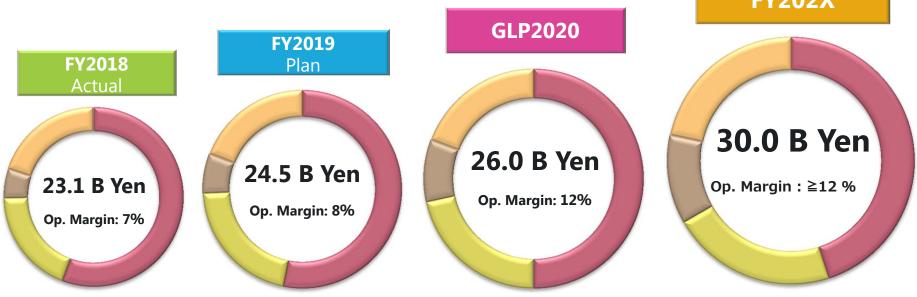
Capture growth opportunities by focusing on boosting competitiveness in 5G business

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

(Note) Anritsu group announced the revised FY2019 Forecast on October 30th, 2019. Numbers in "()" are former FY2019 Forecast, announced on April 25th, 2019.



I - 3 - 4 . GLP2020 Progress Status in PQA Business FY202X

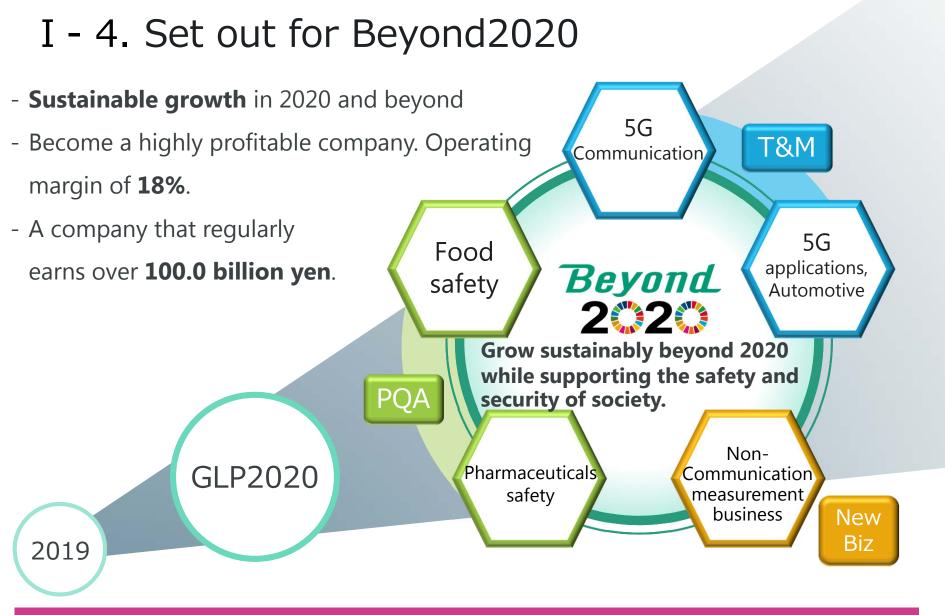


FY2019 Initiatives

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

Japan	
Americas	
EMEA	
Asia	



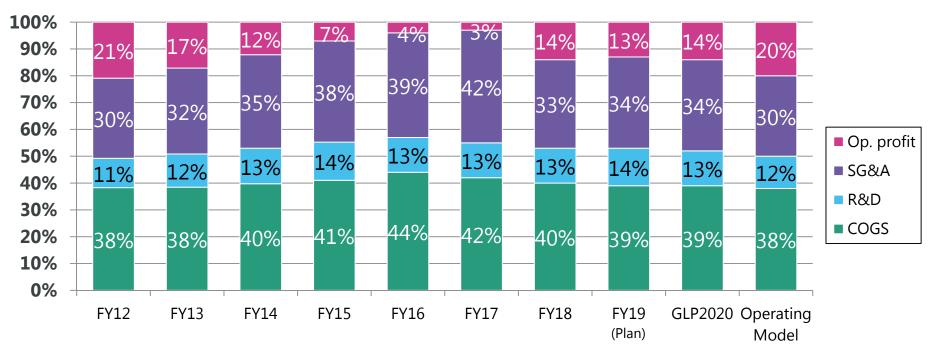


Resolve social issues by realizing Beyond 2020

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II. T&M business segment



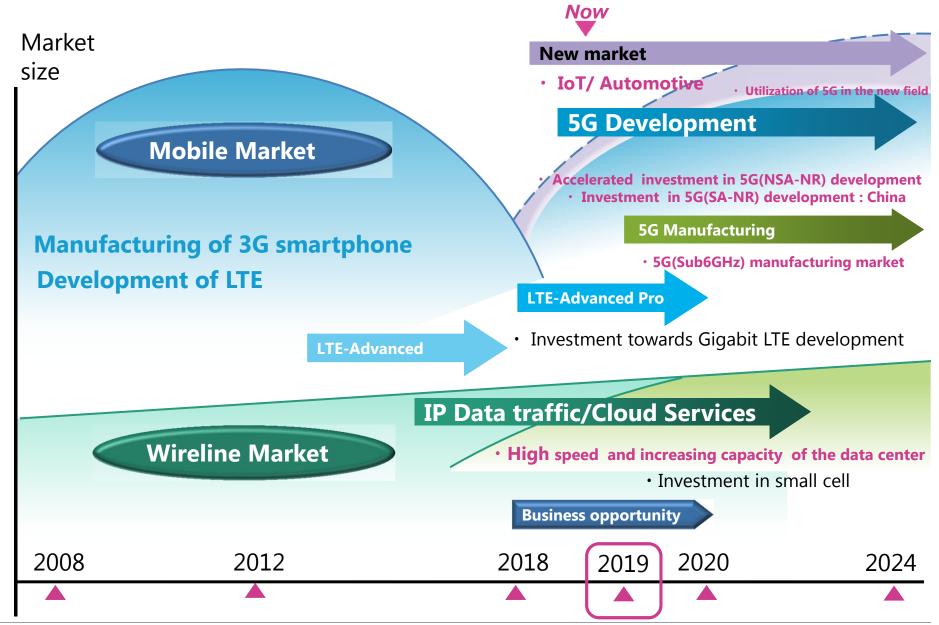


II -1. T&M : Profit structure improvement targets

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

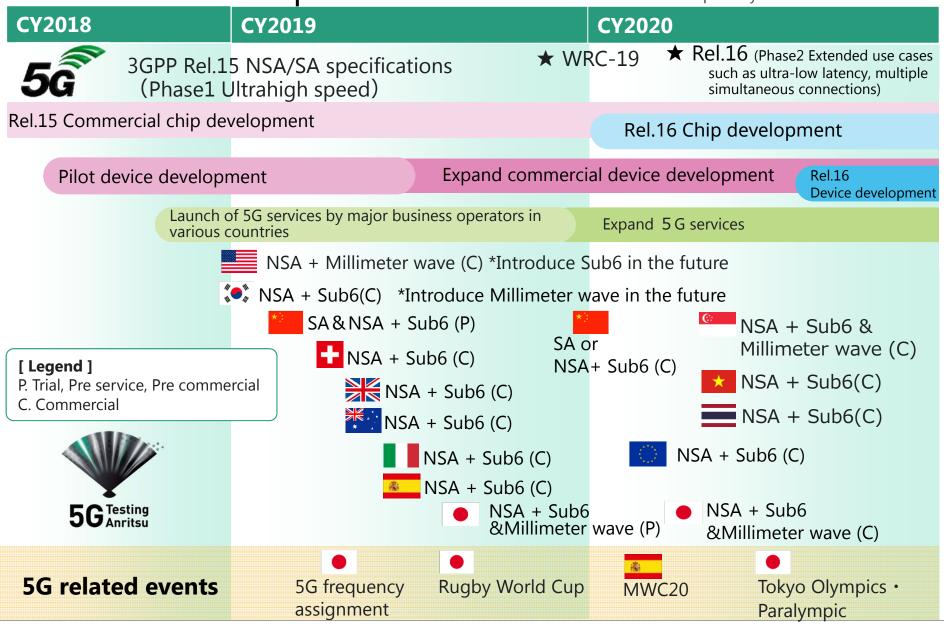
*1:KPI target index for R&D investments is an R&D ROI(gross profit / R&D investment value) of 4.0times or higher.



II - 2. T&M : Mobile market trends and Business opportunity

II-2-1. Roadmap of 5G

* Created by Anritsu referring to publicly available information



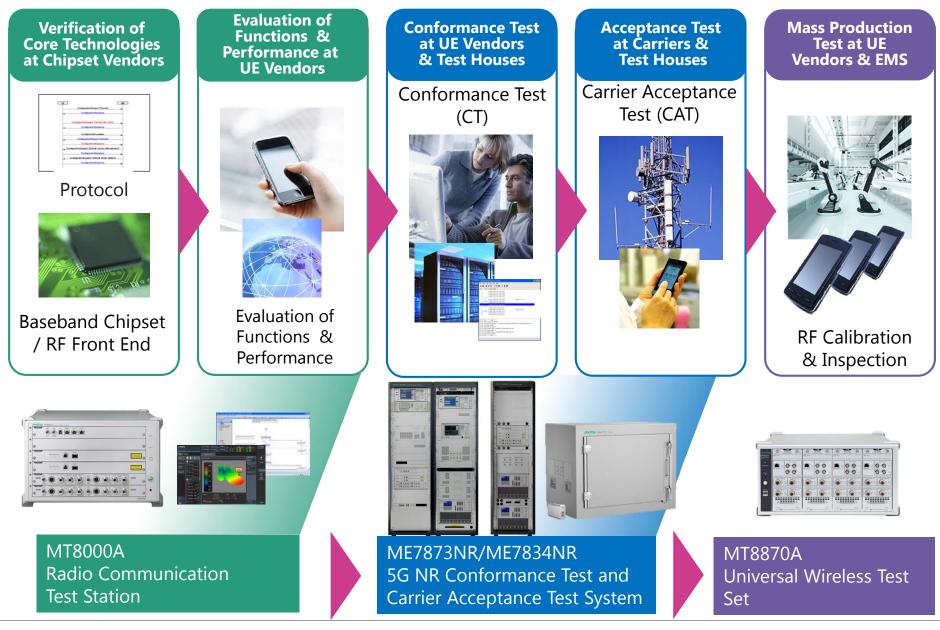
II -2-2. Current status and outlook for major 5G vendors and operators

2018	2019		2020		2021	
★ 3GPP Relea	★ 3GPP Release 15		3GPP Releas	<u>ie 16</u>		
Chipset						
Qualcomm(America) Samsung (Korea)	MediaTek (Taiwan) Intel (America)	N	ext Chipse	t		
Device						
Samsung (Korea) Motorola (America) Sony (Japan)	LG (Korea) Huawei (China) Sharp (Japan)		Next Dev	/ice		
Operators						
Verizon (America) AT&T (America) KT, SKT, L	Docomo, KDDI, So	ftBank Japan)	comm	ercial s	ull-scale service to 0 or later	

*Created by Anritsu, with reference to materials from "Public Meeting for Exchanging Opinions on Radio Policy (58th Meeting)," issued by the Ministry of Internal Affairs and Communications (September 21, 2018), as well as other publicly available information.

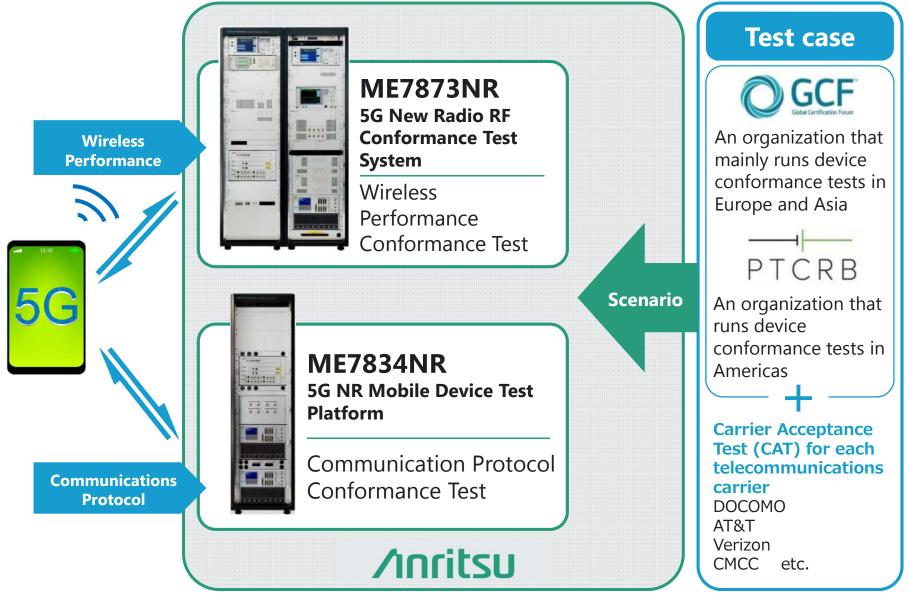


II -2-3. 5G terminal development/manufacturing process and test solutions



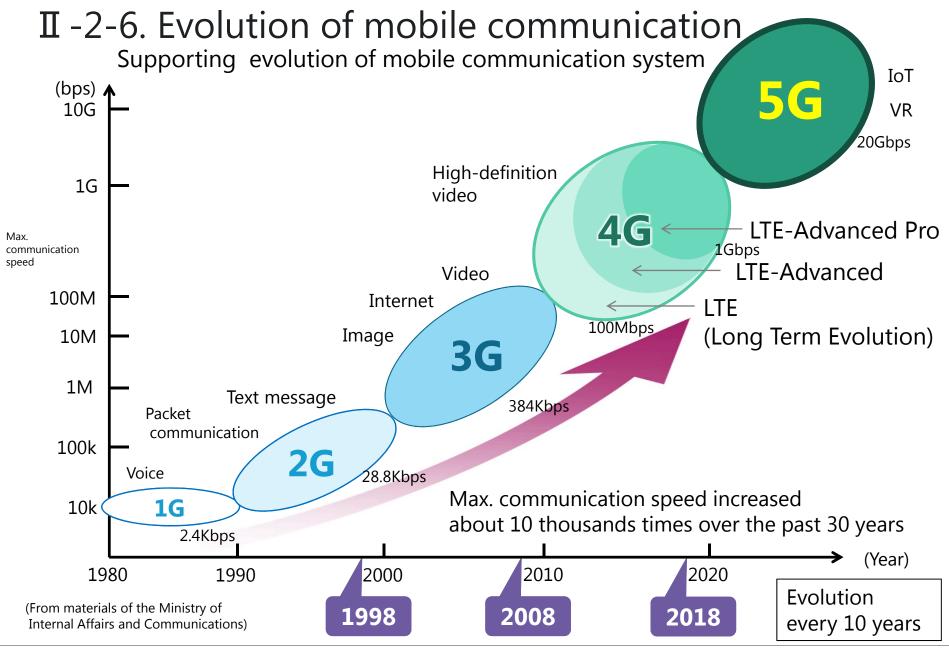
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II -2-4. 5G Test Solutions Conformance Test

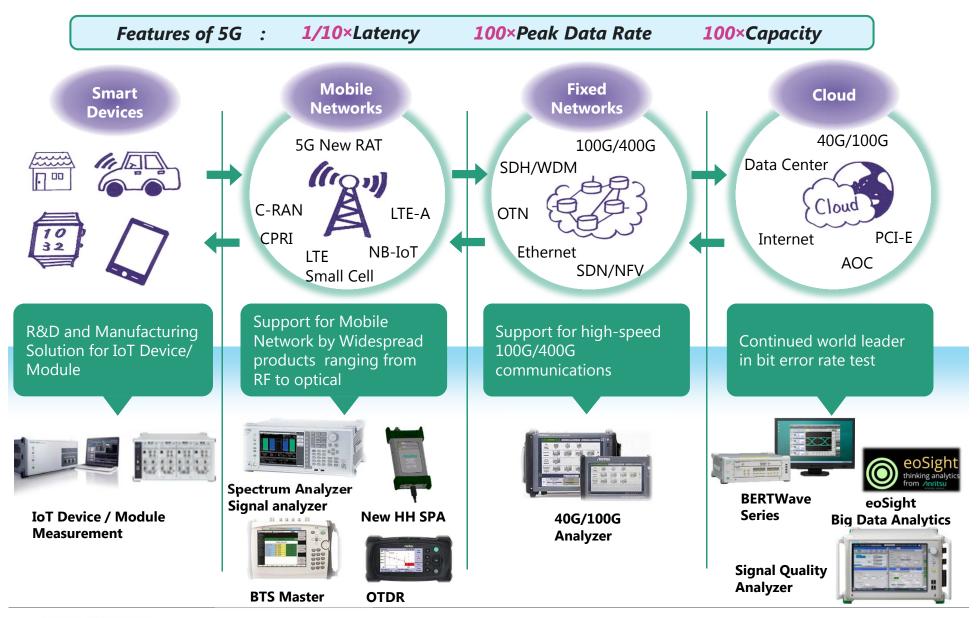


II -2-5. Mobile R&D business and solutions (The case of LTE)

	Platform(Core)	Conformance test		Operator	Smartphone	
	Development	RF	Protocol	Acceptance test	Commercial test	
Uses	Comm. standard development Chipset development			Comm. Carrier acceptance test	Application development UE operation test	
Main customers	Chipset vendor UE vendor	Chipset vendor, UE vendor,Com Carrier, Test house,Communication CarrierUE vendor		UE vendor Applications developer		
Main theme	 FDD / TDD-LTE, LTE-Advanced, LTE-Advanced PRO CA (Carrier aggregation), VoLTE (Voice over LTE) MIMO (Multi Input Multi Output) Chipset unification of 3G/LTE and SRW (Short Range Wireless) 				 Improve data throughput Battery consumption etc. 	
Test solutions						
Main Competitors	Anritsu : No.1 position Rohde & Schwarz		Rohde & Schwarz, Keysight(Agilent, Anite), Spirent		Rohde & Schwarz, Keysight	



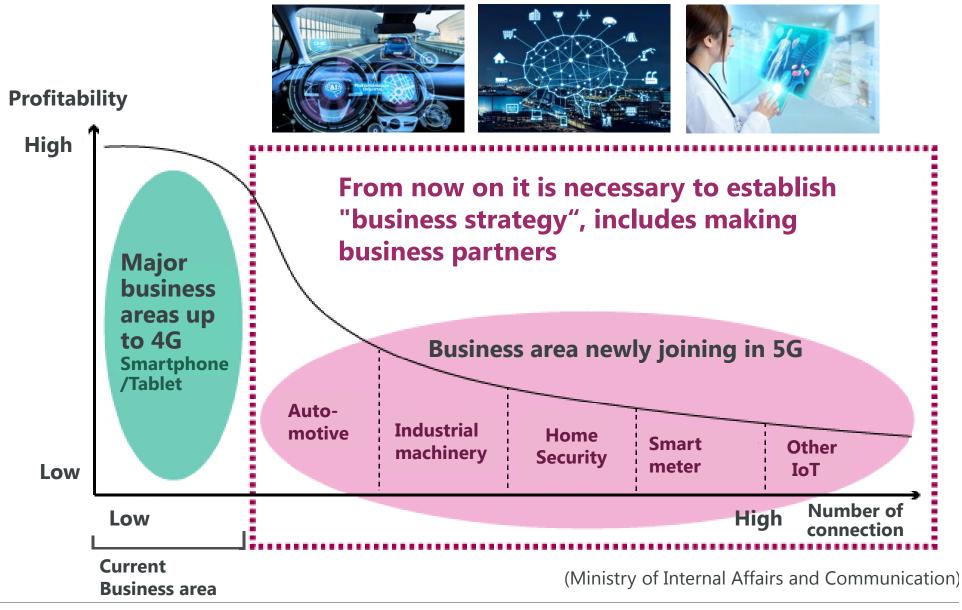
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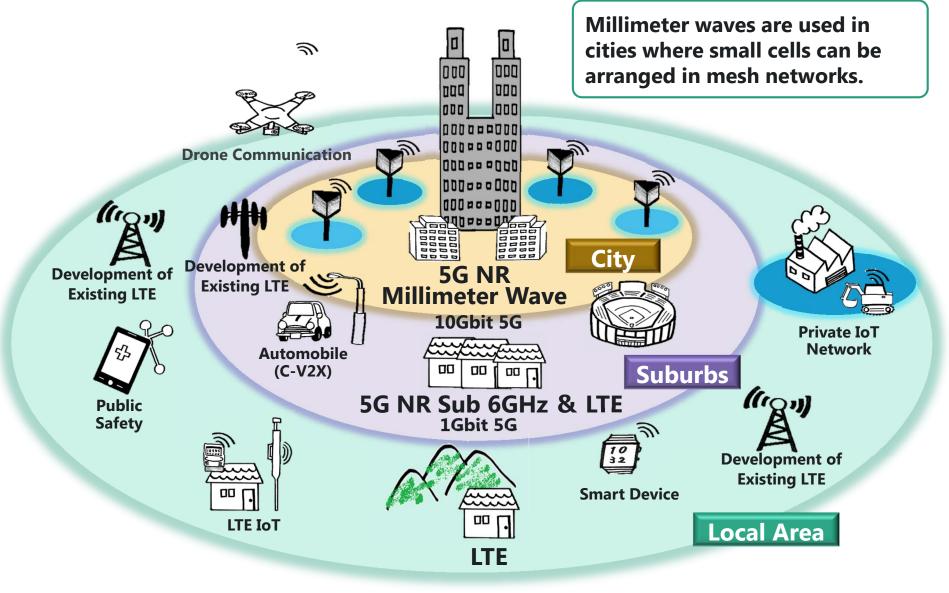
II -2-7. Contributing to the establishment of 5G network infrastructure

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

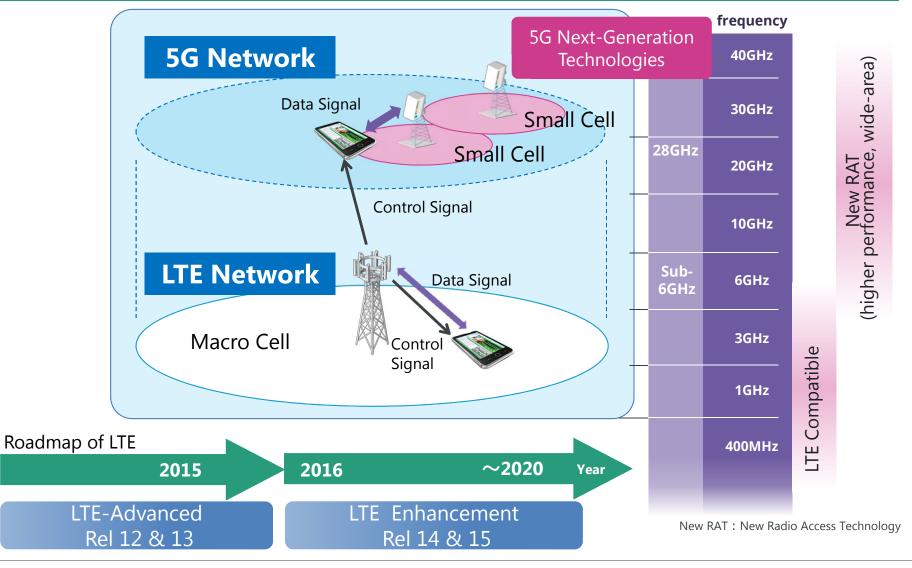


II -2-9 . Outlook for 5G Service Development



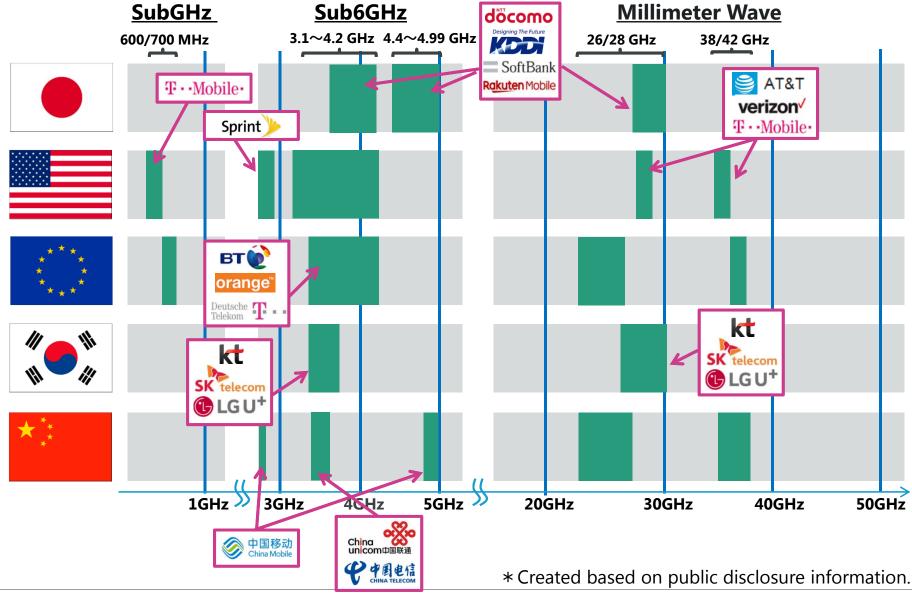
II -2-10. 5G and LTE coexist and interwork

5G = LTE Enhancements + Next-Generation Wireless Technologies



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

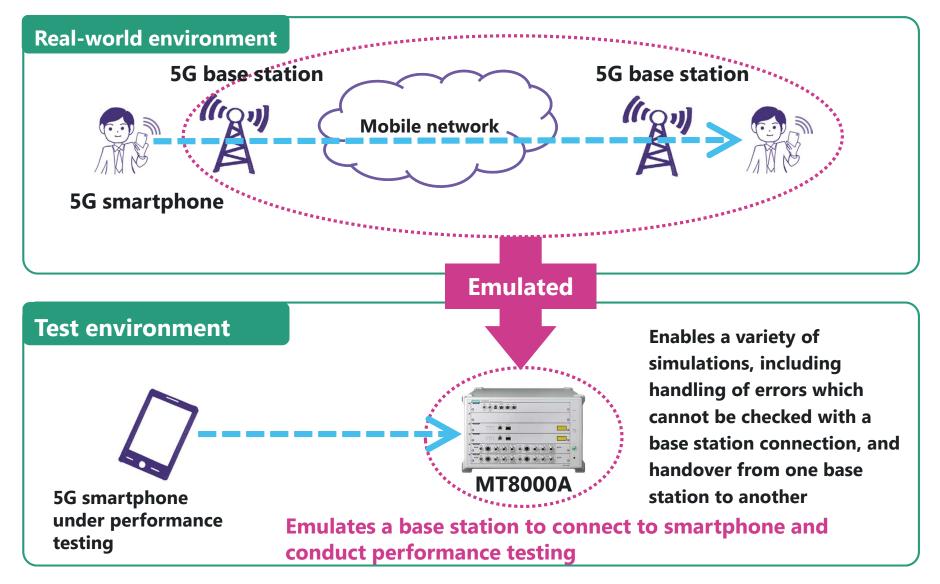


II -2-12. Solutions for 5G chipset/device development

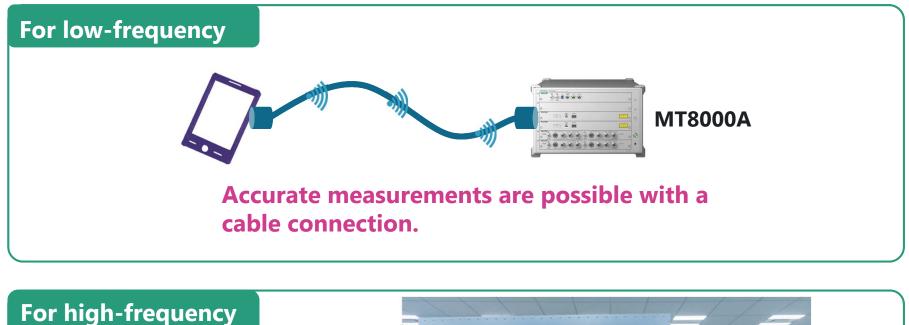
We have begun shipments of the Radio Communication Test Station MT8000A for development of chipsets, devices, etc. for the 5G market



$\rm I\!I$ -2-13. Role of MT8000A



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



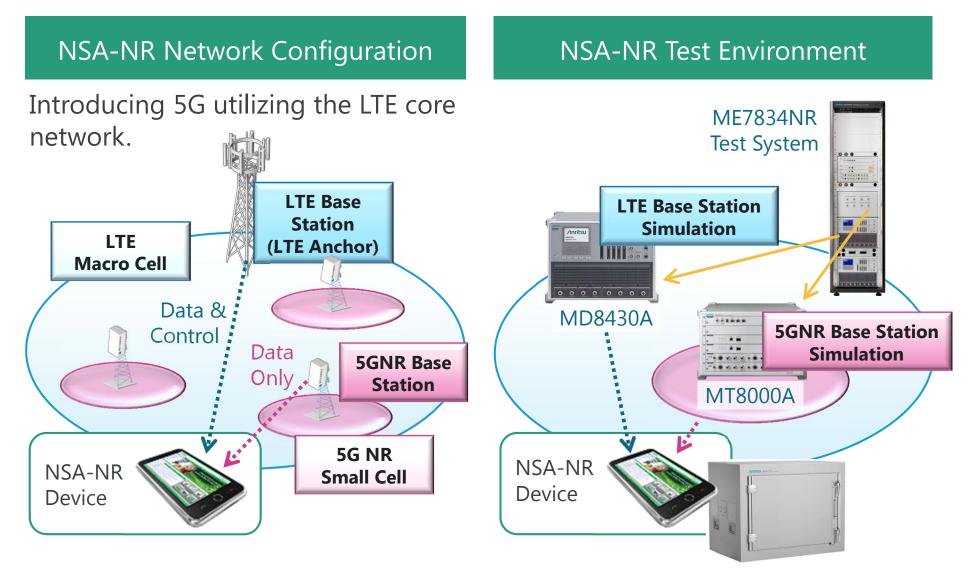
(millimeter wave)

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

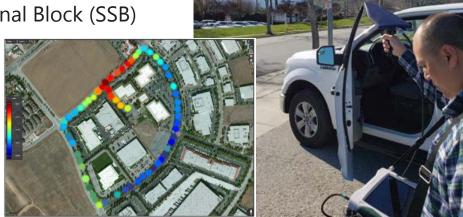
Usage: 5G NR Base Station Measurement

3GPP TS 38.104 V15 gNB Base Station Performance Evaluation

- \cdot Frequency error \cdot Occupied bandwidth
- · Time offset · Adjacent channel leakage ratio
- · Cell/Sector ID · Tx spurious up to 12.75 GHz
- \cdot Modulation quality \cdot 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.

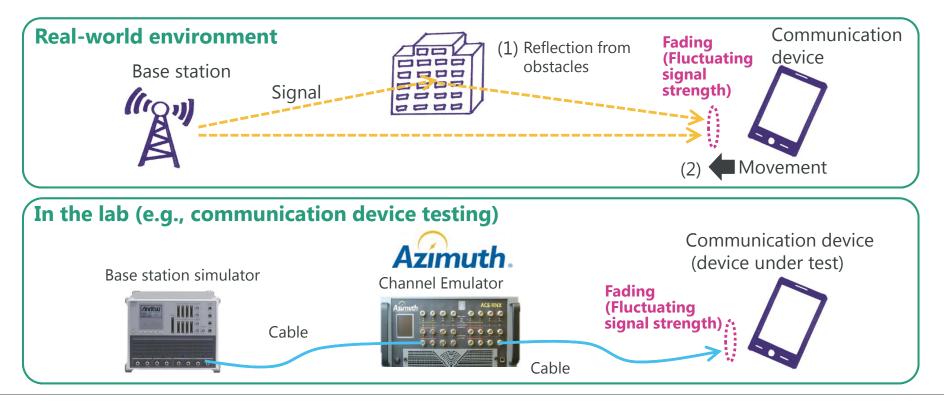




II -2-18. Acquisition of Azimuth Systems, Inc.

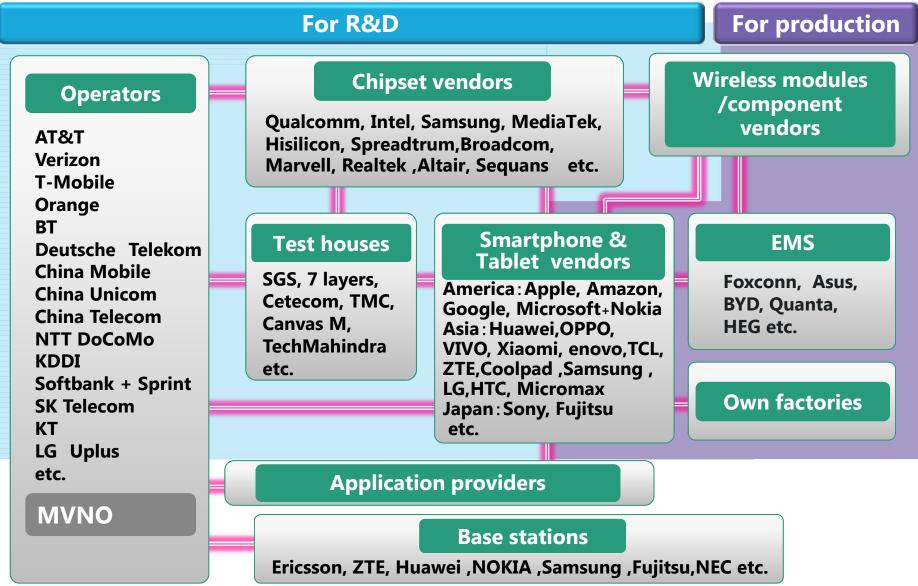
- Company Name : Azimuth Systems, Inc.
- Headquarters : Boston, USA
- Business model: Development and sales of channel emulators, etc.
- Main customers : Operators, chipset vendors, network equipment vendors,

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

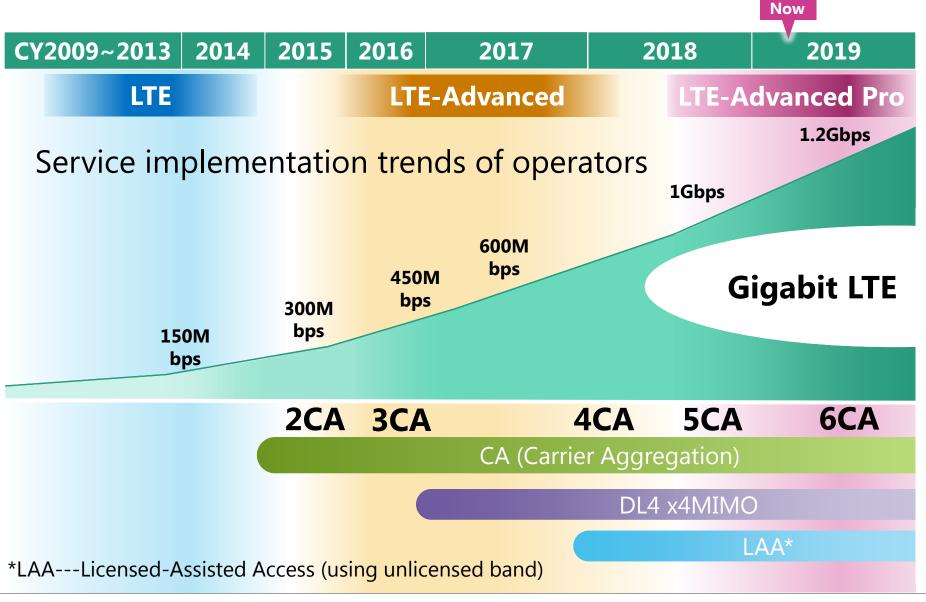




II -2-19. Food chain and players in mobile telecom market



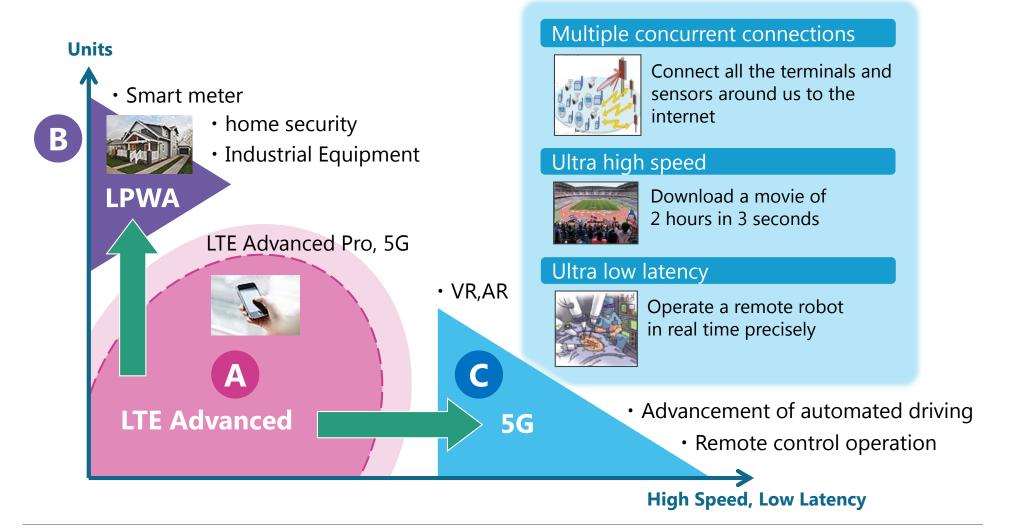
II -2-20. Roadmap of LTE service



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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

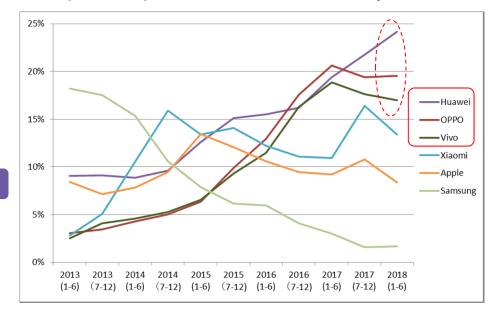
Current features 1. Huawei, Vivo, Oppo The rise of China vendors and intensifying

competition ($\boxed{2}$) 2. The growth of the manufacturing market in India

Solutions for 2G / 3G / LTE & Connectivity



Smartphone Shipment Market Share in China by Vendor *



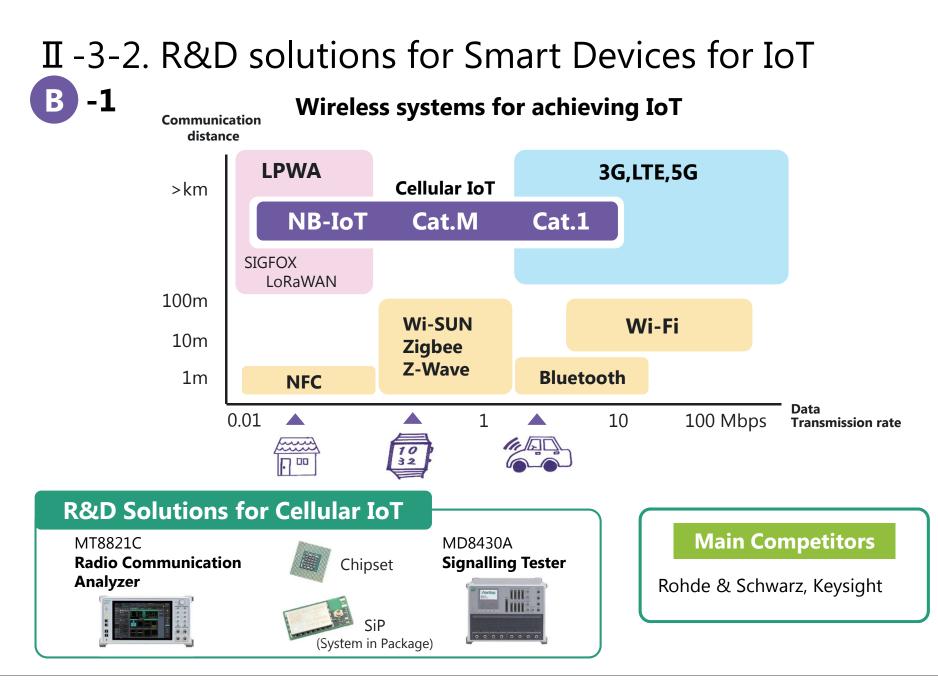
*Source : Gartner "Market Share: PCs, Ultramobiles and Mobile Phones, All Countries, 2Q18 Update" 24 Aug. 2018 Smartphone = Basic Phone, Premium Phone, Utility Phone OS=Excluding WindowsRT and Proprietary Graph created by Anritsu based on Gartner research

Main Competitors

Rohde & Schwarz, Keysight

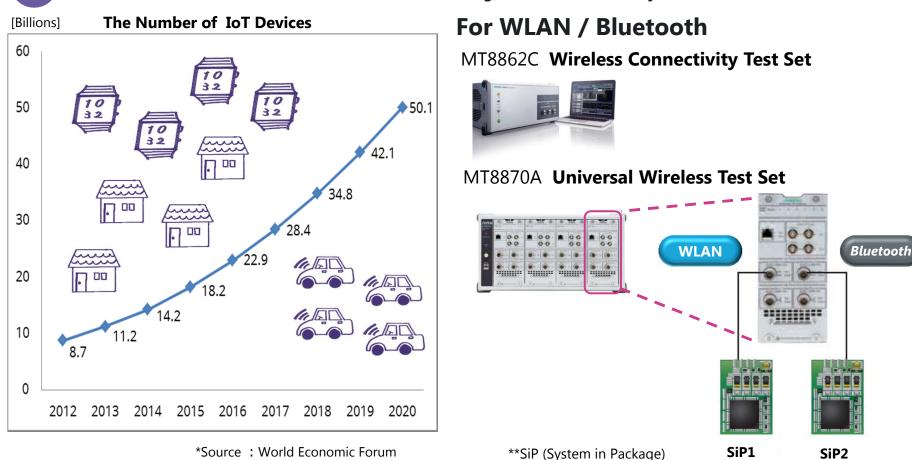
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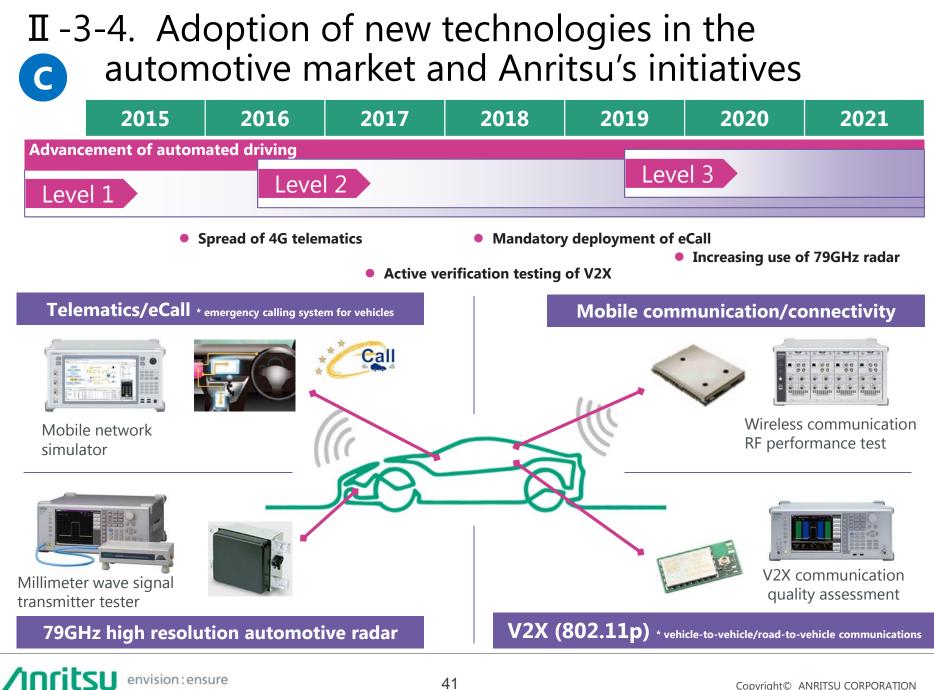
II -3-3. Manufacturing solutions for Smart Devices for IoT • The growth of Connectivity & Module markets for IoT



Main Competitors

Teradyne, National Instruments, Rohde & Schwarz, Keysight



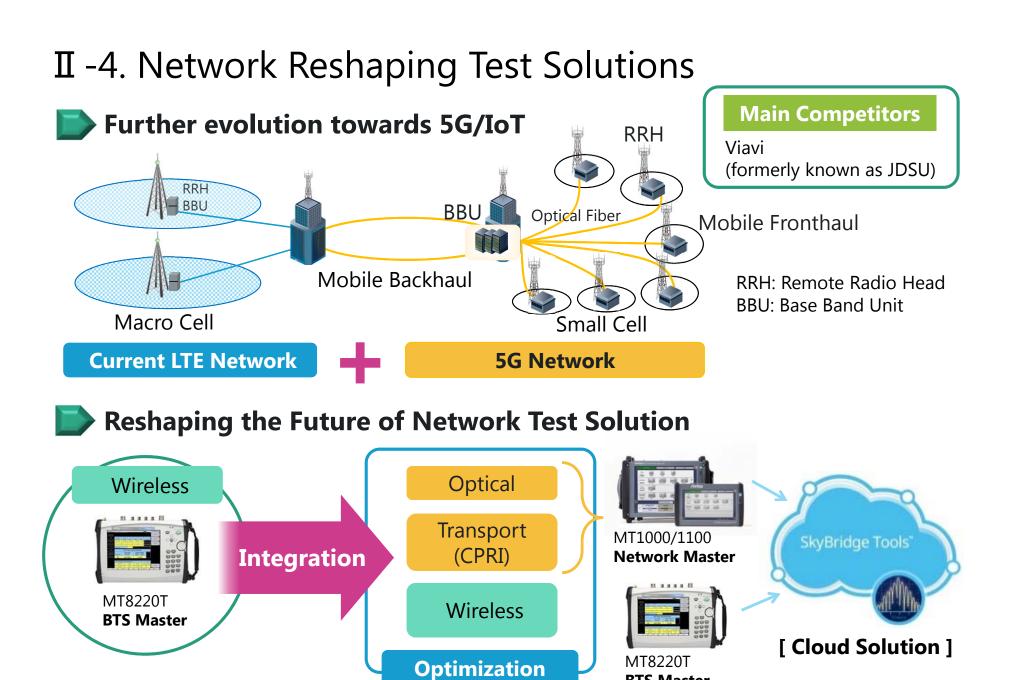


II -3-5. Food chain and players in Automotive market

Safety , Emergency , Comfort , Infotainment , Diagnostic

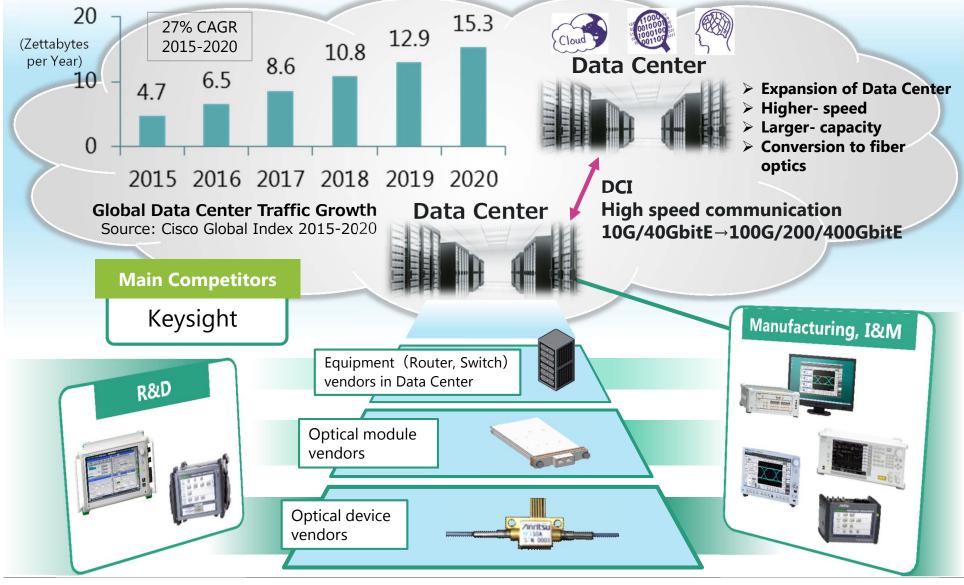
Car Vendors	Dashboard Vendors	Module Vendors	Chipset Vendors
Autonomous car	Transceiver module	Cellular module ,	Semi- conductors
ADAS	(Cellular + V2X +	Connectivity	for communi-
(Advanced Driver Assistance System)	Connectivity + Antenna +etc.)	module , V2X module ,	cation
Telematics (Telecommunication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

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BTS Master

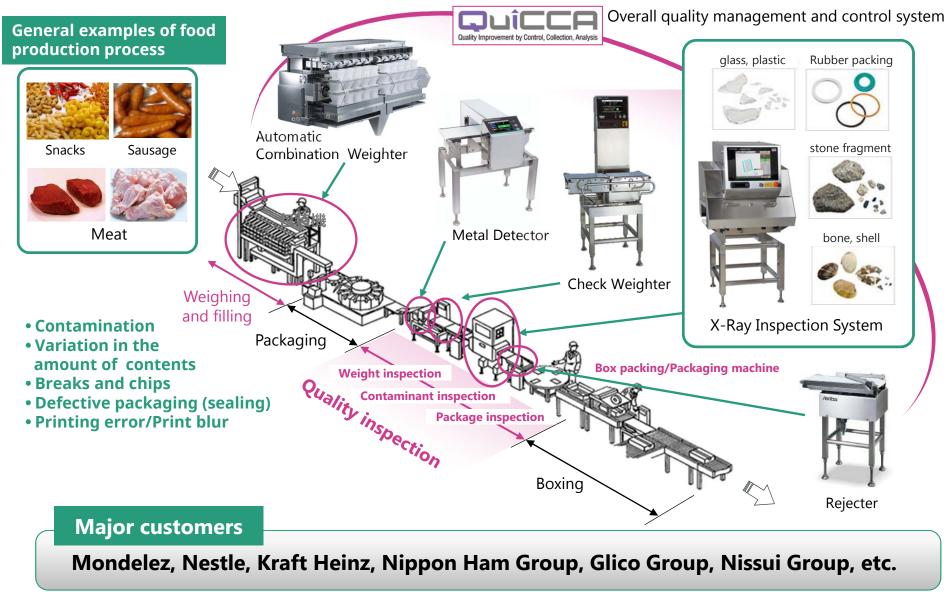
II -4-1. Test Solutions for support of Cloud Service expanding Data traffic extending explosively



III. PQA Business segment

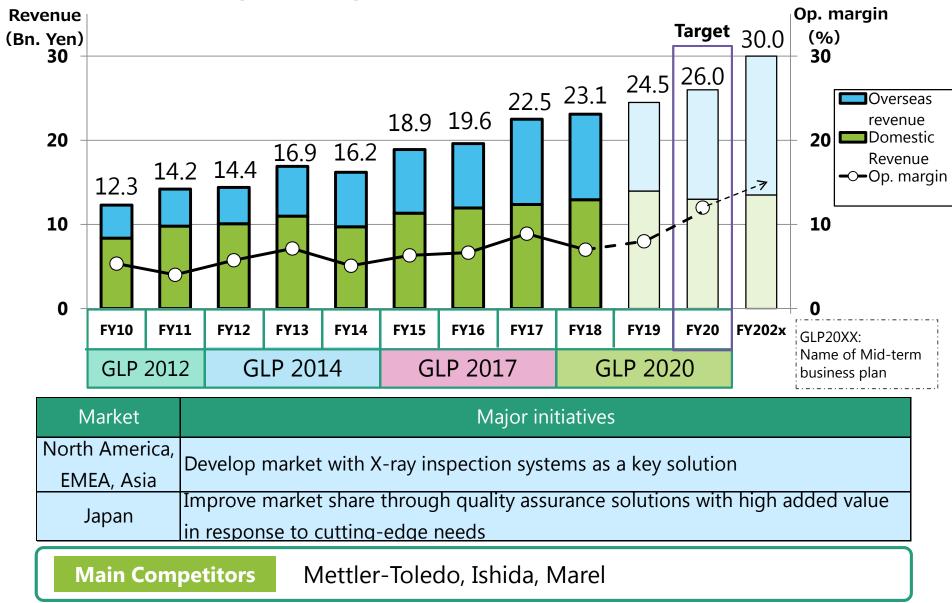


III-1. PQA business segments (Products Quality Assurance)

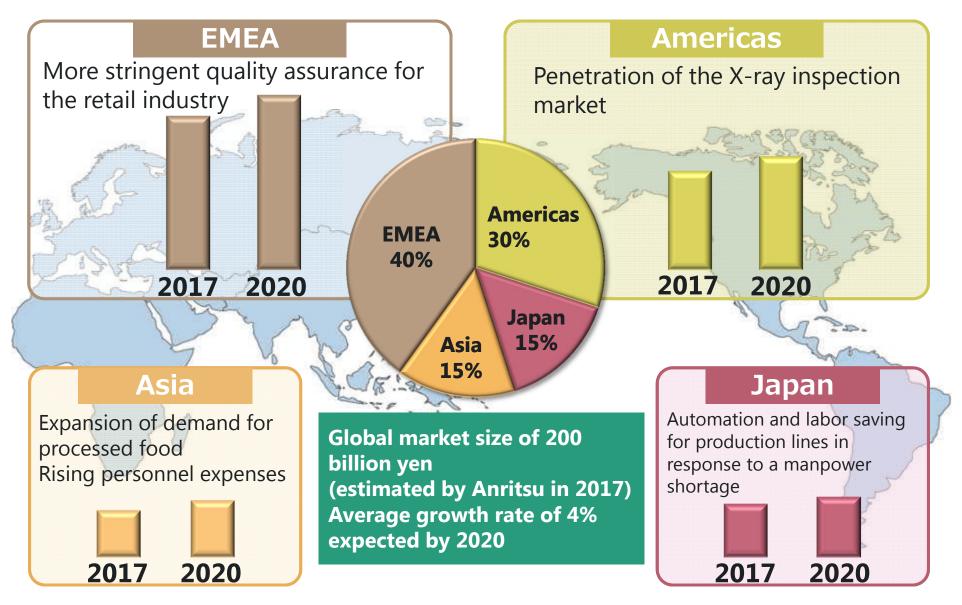


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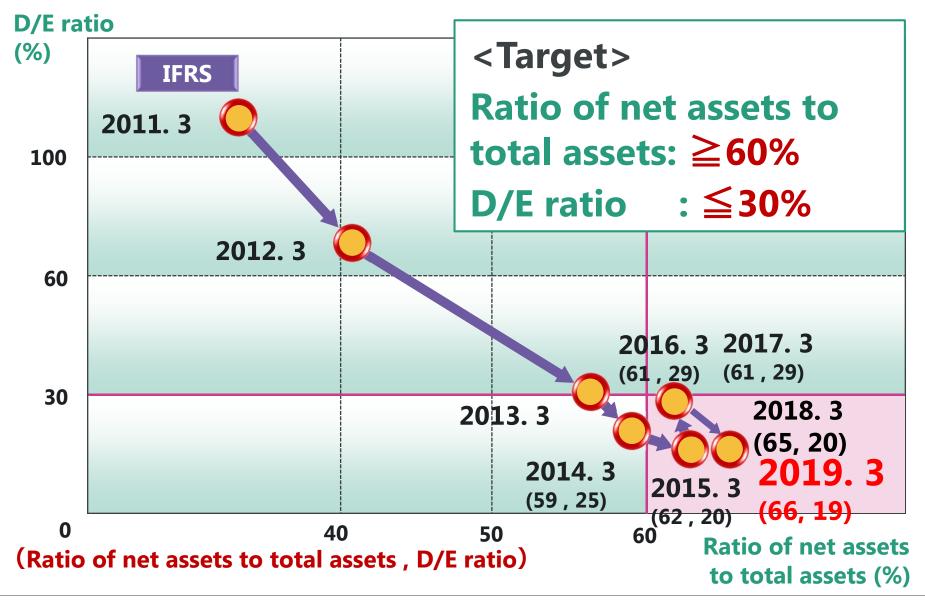
III-2-1. The growing PQA business < PQA >



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



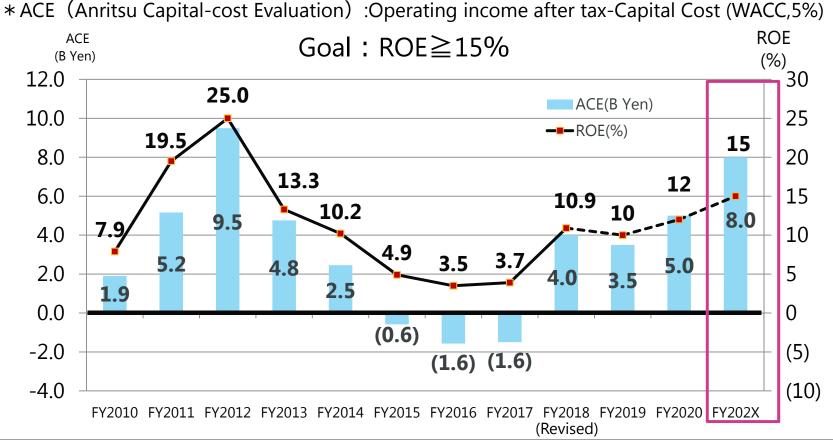
IV-1. Financial Strategy



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



IV-2. Shareholder Return Policy

Dividend Policy

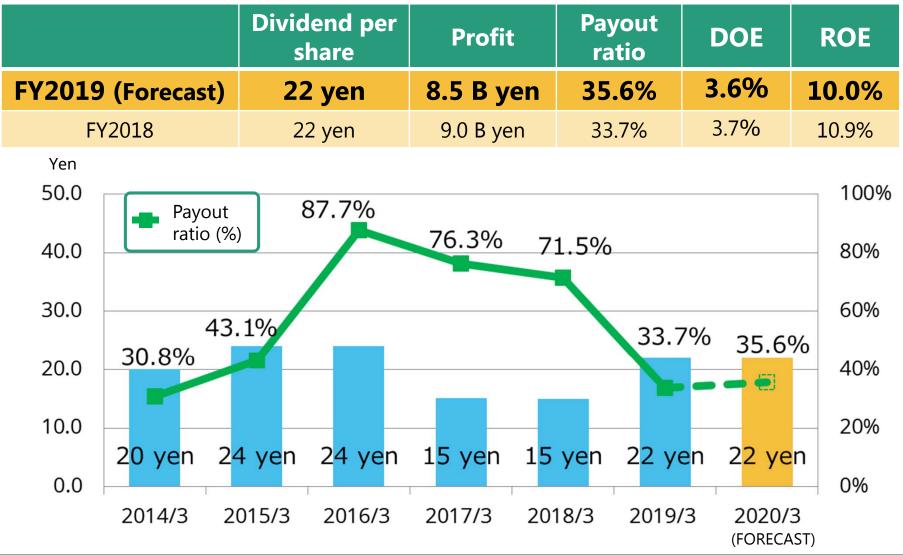
Distribute profits in accordance with its consolidated performance(Net profit) and by taking into account the total return

- 1. 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



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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



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.



T&M

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

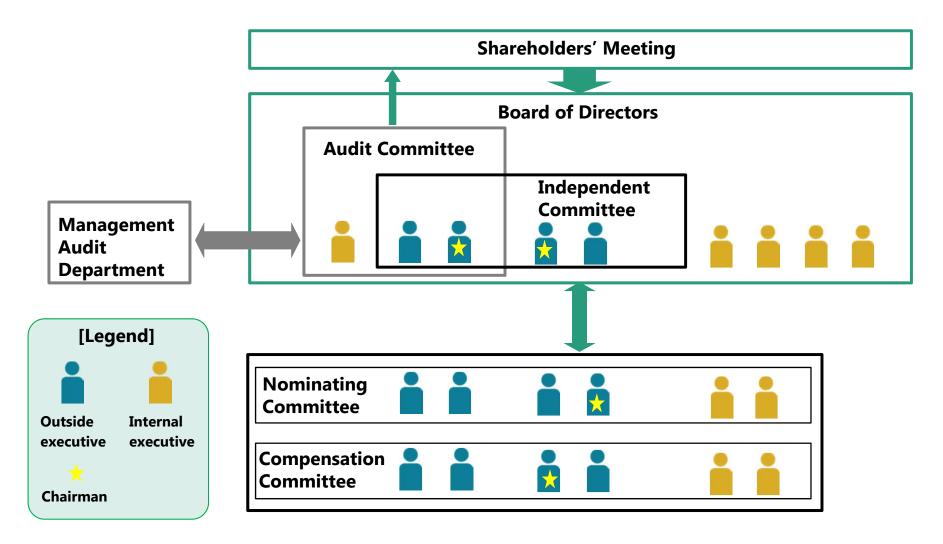
Contributing to the creation of shared value with collaboration among all stakeholders



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IV-4. Corporate Governance System

For improving competitiveness and continuously enhancing corporate value



V. Financial Results for the 2nd quarter of the Fiscal Year ending March 31, 2020

Note :The announced on October 30



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 Sep.)	FY2019 (Apr. to .Sep.)	YoY	YoY (%)
Order Intake	47.9	53.6	5.7	12%
Revenue	44.3	49.8	5.5	12%
Operating profit (loss)	3.5	6.6	3.1	90%
Profit (loss) before tax	3.7	6.4	2.7	73%
Profit (loss)	3.1	4.7	1.6	49%
Comprehensive income	4.4	3.4	(1.0)	-23%

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

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

T&M : Steady development demand for 5G

Unit: Billion Yen

International Financial Reporting Standards (IFRS)		FY2018 (Apr. to Sep.)	FY2019 (Apr. to .Sep.)	YoY	YoY (%)
T&M	Revenue	29.2	35.2	6.0	21%
	Op. profit (loss)	2.5	5.9	3.4	132%
PQA	Revenue	11.4	10.7	(0.7)	-6%
	Op. profit (loss)	0.9	0.5	(0.4)	-46%
Others	Revenue	3.7	3.9	0.2	5%
	Op. profit (loss)	0.4	0.7	0.3	52%
Adjustment	Op. profit (loss)	(0.3)	(0.4)	(0.1)	-
Total	Revenue	44.3	49.8	5.5	12%
	Op. profit (loss)	3.5	6.6	3.1	90%

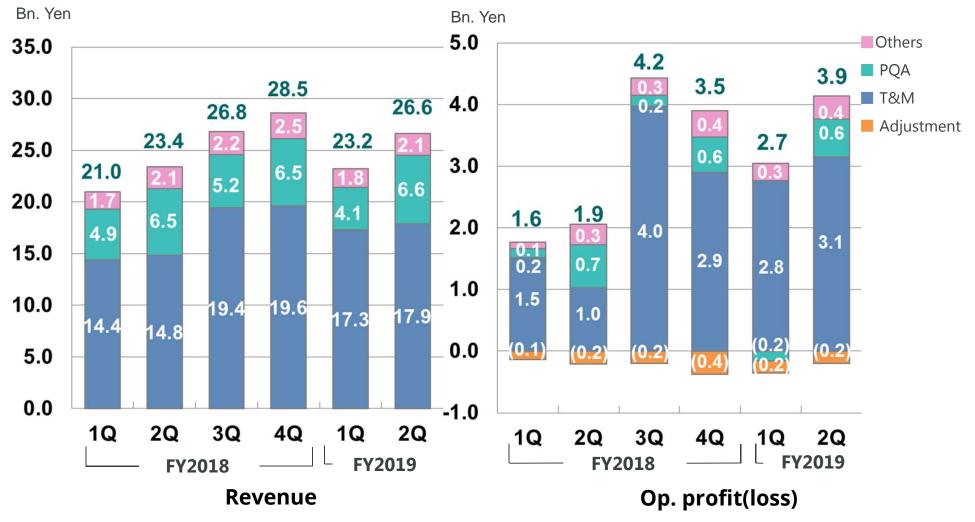
Note1 : Numbers are rounded off to the first decimal place in each column.

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 -

2Q(July-Sep.) Operating margin : Consolidated15%, T&M18%, PQA9%



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

V-4. Overview of operations by business segment

Segment	FY2019 2Q (April to Sep., 2019)			
T&M : 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 Launch of 5G network infrastructure				
Asia	Expansion in investment from 5G pre-service in China			
Americas	Launch of 5G service . Will pay close attention to the future area expansion.			
PQA : Strong investment by food market for quality assurance, automation, and labor saving both in Japan and overseas				

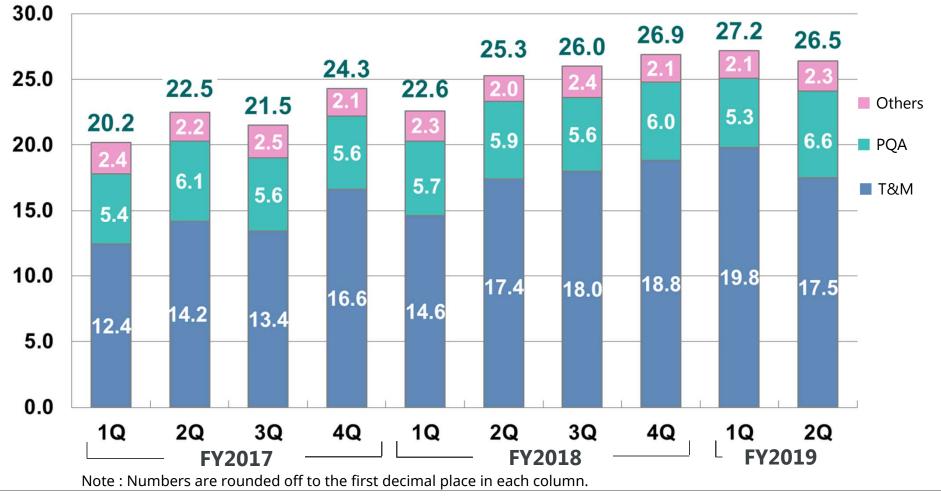
T&M: Test & Measurement PQA : Products Quality Assurance

V-5. Transition of Order intake

T&M : 16% growth year on year

PQA : 3% growth year on year

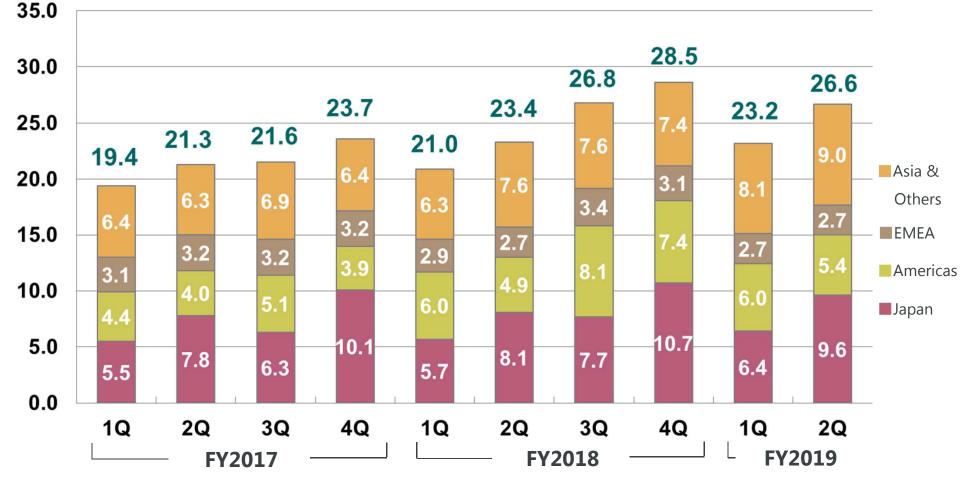
Bn. Yen



Anritsu envision : ensure

V-6. Transition of Revenue by region

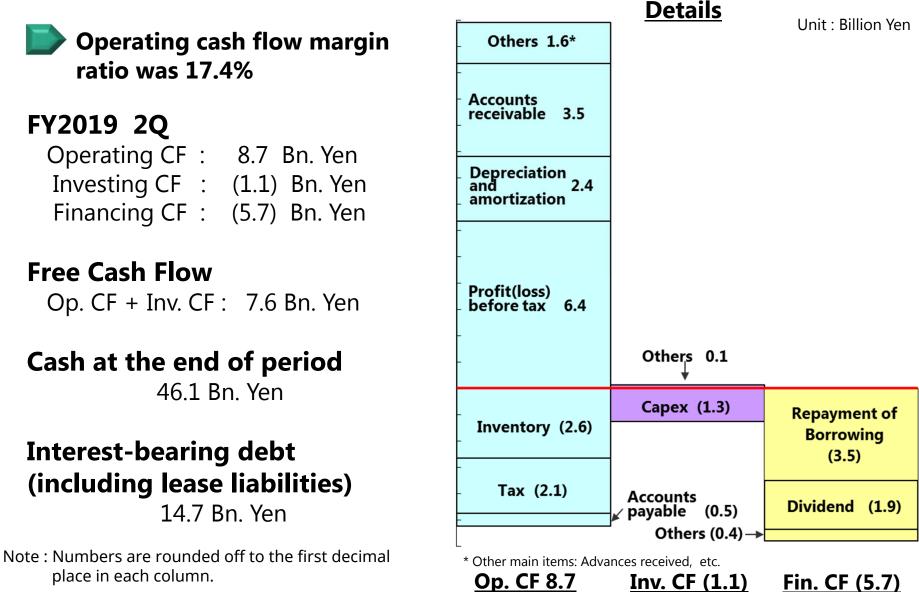
Revenue rose year on year in Asia and Japan, backed by strong 5G demand



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

Bn. Yen

V-7. Cash Flow



V-8. Forecast for full year of FY2019 (Consolidated)

Upward revision in revenue and profit forecast for T&M

Unit: Billion Yen

International Financial Reporting Standards (IFRS)		FY2018	FY2019			
		Full Year				
		Actual	Previous	Revised	ΥοΥ	YoY(%)
	,		Forecast	Forecast		
Revenue		99.7	102.0	103.0	3.3	3%
Operating pr	ofit (loss)	11.2	10.0	11.5	0.3	2%
Profit (loss) b	efore tax	11.4	10.0	11.5	0.1	1%
Profit (loss)		9.0	7.5	8.5	(0.5)	-5%
T&M	Revenue	68.2	69.0	70.0	1.8	3%
	Op. profit (loss)	9.4	8.0	9.5	0.1	1%
PQA	Revenue	23.1	24.5	24.5	1.4	6%
ΓQA	Op. profit (loss)	1.6	2.0	2.0	0.4	24%
Others	Revenue	8.4	8.5	8.5	0.1	1%
	Op. profit (loss)	1.1	0.9	0.9	(0.2)	-21%
Adjustment	Op. profit (loss)	(0.9)	(0.9)	(0.9)	0.0	-

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

Reference : Exchange rate : FY2018 (Actual) FY2019 (Initially Forecast)

1USD=111 yen, 1EURO=128 yen 1USD=105 yen, 1EURO=125 yen 1USD=105 yen, 1EURO=125 yen



FY2019 2H (Forecast)

Annitsu envision : ensure

