

# Continuous Growth with Sustainable Superior Profits

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Anritsu Corporation

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

**Anritsu**  
envision : ensure

# Cautionary Statement

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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

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

1. T&M : GLP2020 Revenue and Operating profit plan
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 3rd quarter of the Fiscal Year ending March 31, 2019**

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

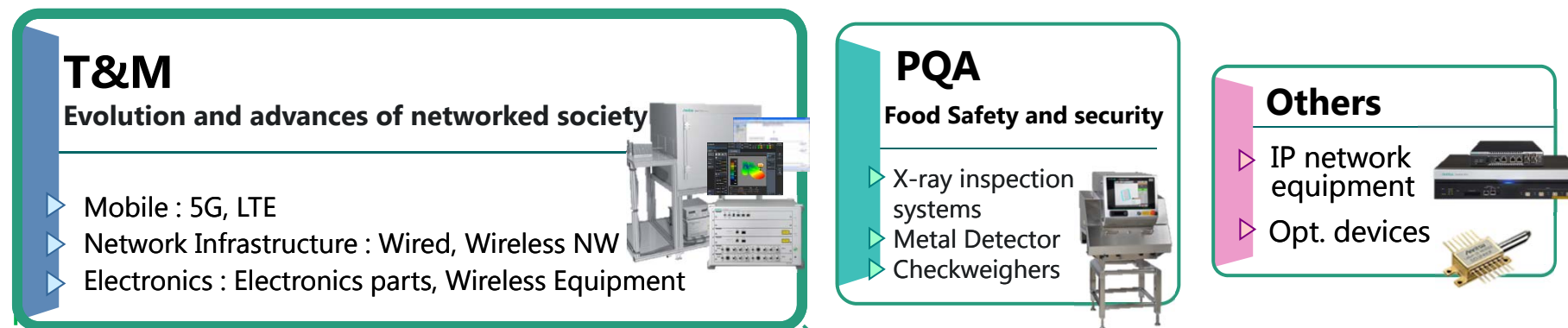
# I -1. Basic Policy of Management Strategy

- ✓ Prosecute the policy "Continuous profitable growth"
- ✓ Make our best to accomplish 2020VISION/ GLP2020

\* GLP2020 Plan = FY2018~FY2020

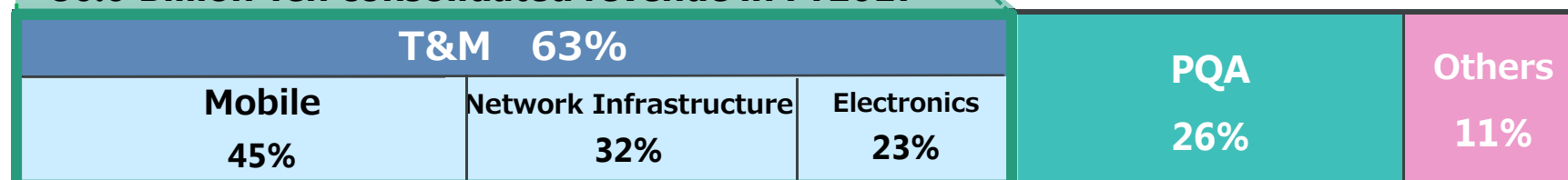


# I -2. Outline of our business segments

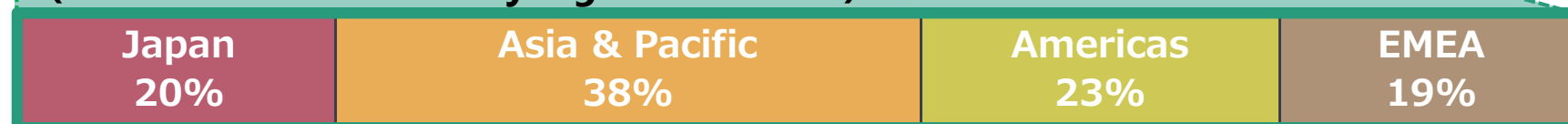


**(Revenue by business segment)**

**86.0 Billion Yen consolidated revenue in FY2017**



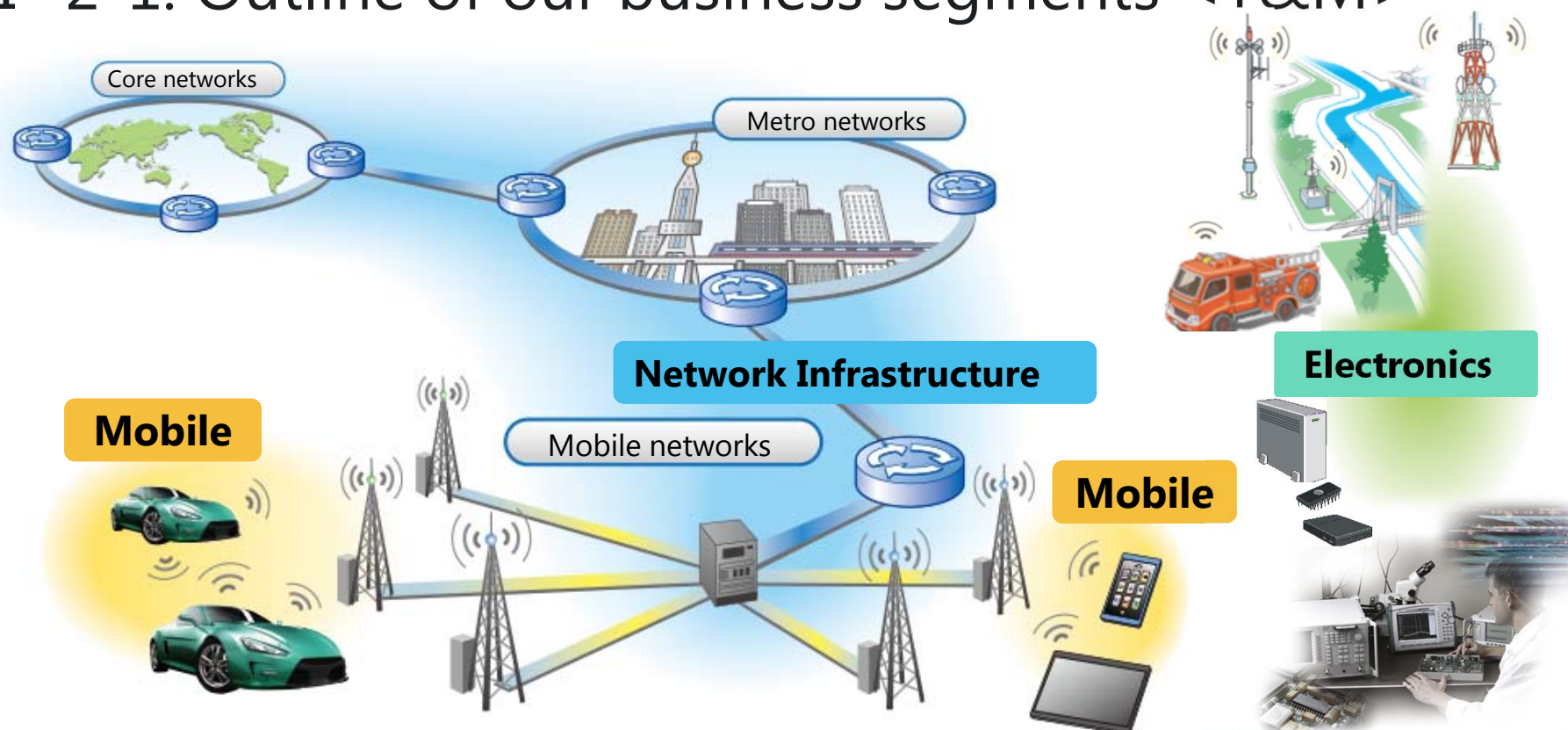
**(Sales of T&M business by region in FY2017)**



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



# I -2-1. Outline of our business segments <T&M>



	R&D	Manufacturing	Installation/ Maintenance
Wireline Communication	Network Infrastructure (32%)		
Wireless Communication	Mobile (45%)		
General Purpose	Electronics (23%)*		
	*Electronics components etc.		

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

Capture growth drivers without fail, and realize “continuous profitable growth”

		Market average annual growth rate (estimated by Anritsu)	Vision/growth driver	Medium & long –term guideline	
				Sales growth rate	Operating margin
	T&M	3-5%	<b>Become a leading company supporting 5G/IoT society</b> (1) 5G, LTE-Advanced (2) IoT/Automotive, Connectivity (3) IP Data traffic/Cloud Services	$\geq 7\%$	$\geq 20\%$
	PQA	3-5%	<b>Become a world-class partner in quality assurance solution</b> Expansion from contaminant inspection into the quality assurance market	$\geq 7\%$	$\geq 12\%$
	Consolidated	—	—	—	$\geq 18\%$
	ROE	—	—	$\geq 15\%$	



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

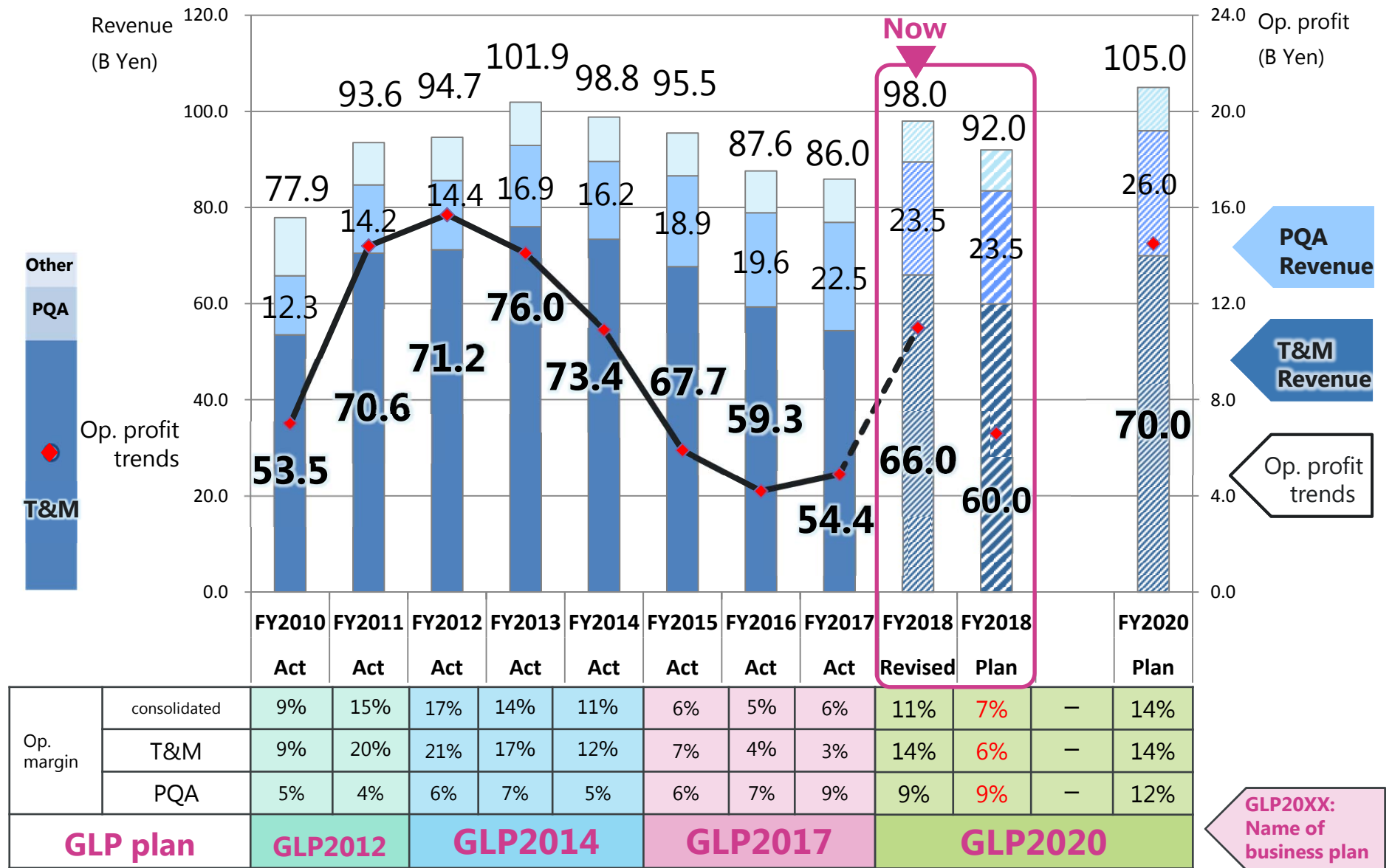
**Upward revision > Initial plan** **GLP2020**

Indicators		FY2018	FY2018	FY2020
Revenue		<b>98.0 B Yen</b>	92.0 B Yen	105.0 B Yen
OP. profit		<b>11.0 B Yen</b>	6.6 B Yen	14.5 B Yen
Op. margin		<b>11%</b>	7 %	14 %
Profit		<b>8.5 B Yen</b>	5.0 B Yen	11.0 B Yen
ROE		<b>10%</b>	7%	12%
T&M	Revenue	<b>66.0 B Yen</b>	60.0 B Yen	70.0 B Yen
	Op. profit	<b>9.0 B Yen</b>	3.5 B Yen	10.0 B Yen
	Op. margin	<b>14 %</b>	6 %	14 %
PQA	Revenue	23.5 B Yen	23.5 B Yen	26.0 B Yen
	Op. profit	2.0 B Yen	2.0 B Yen	3.0 B Yen
	Op. margin	9 %	9 %	12 %

\*Anritsu announced the change of FY2018 Forecast in January.

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

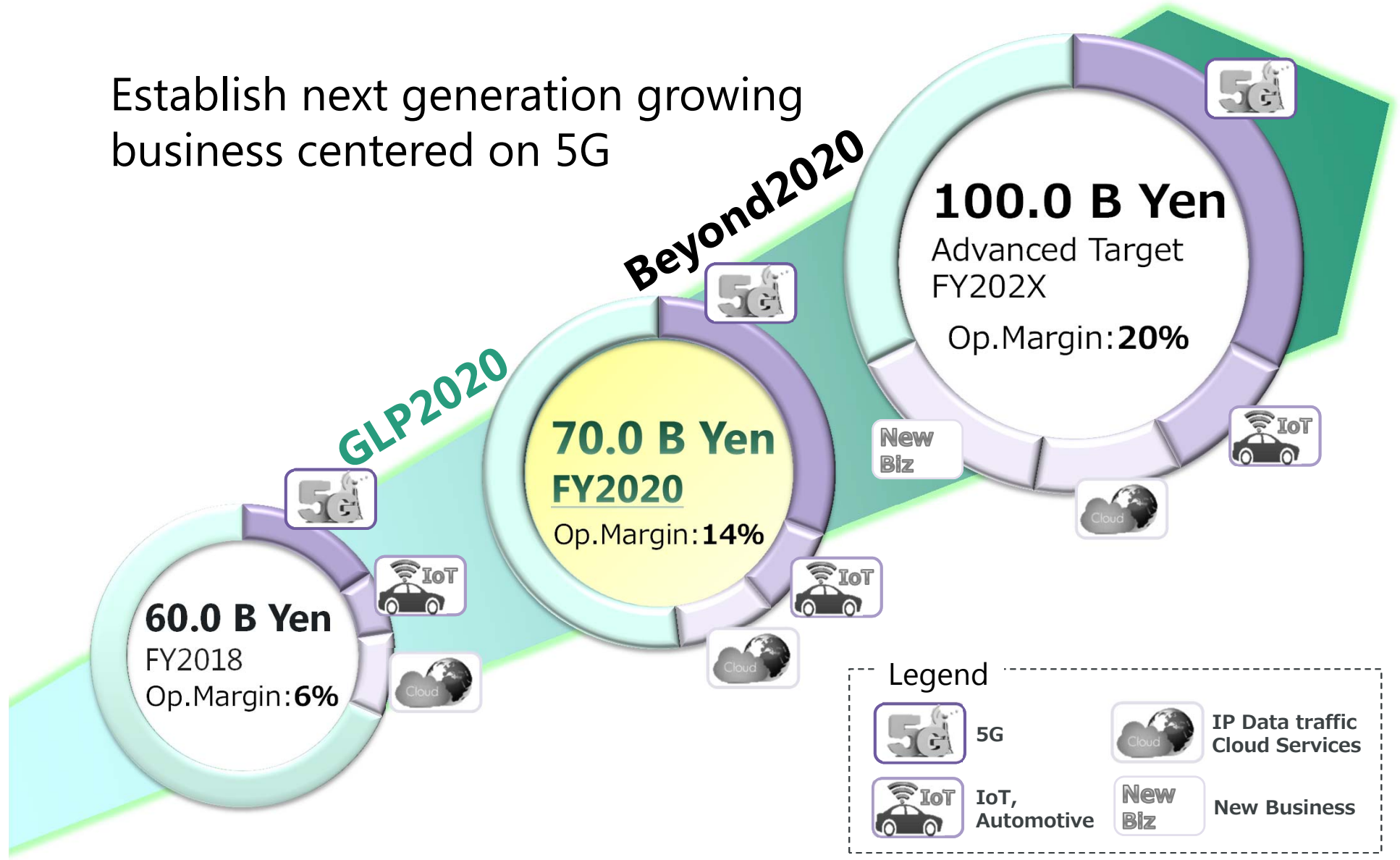
# I - 3-2. GLP2020 : Revenue and Op. profit Plan (2/2)



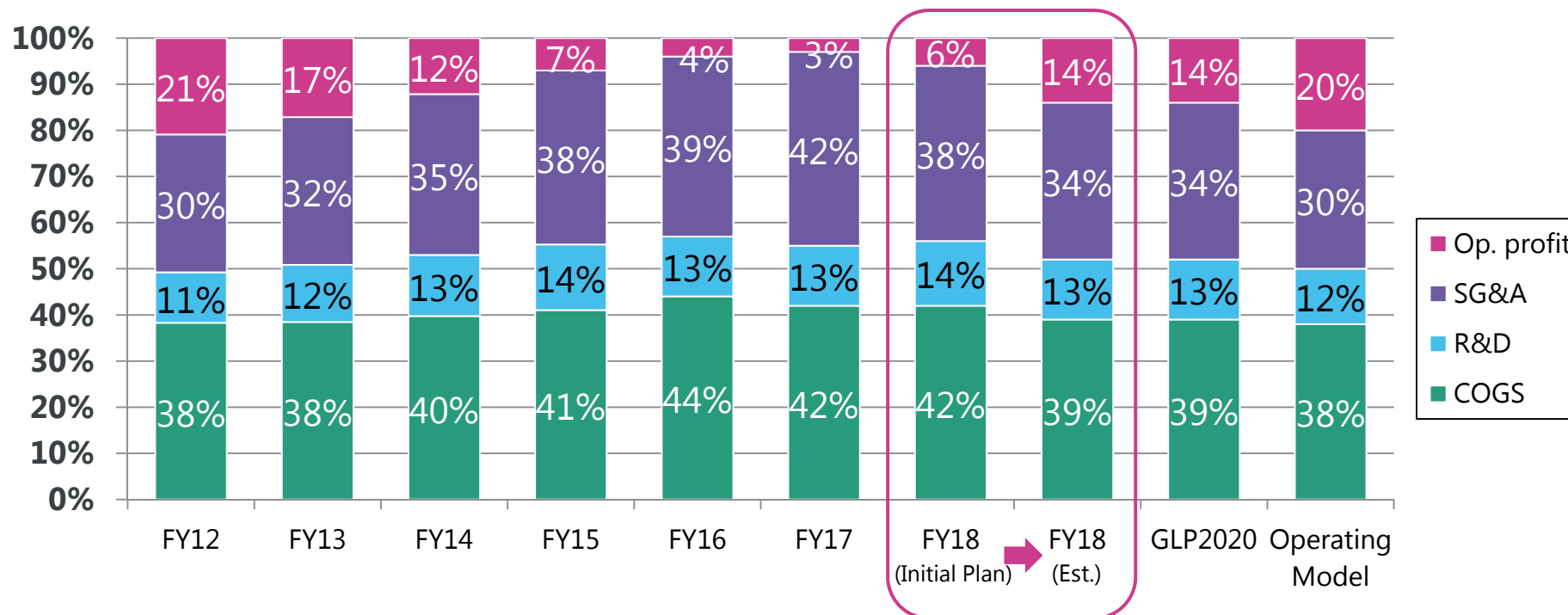
## **Ⅱ . T&M business segment**

## II -1. T&M : GLP2020 Revenue and Operating profit plan

Establish next generation growing business centered on 5G



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

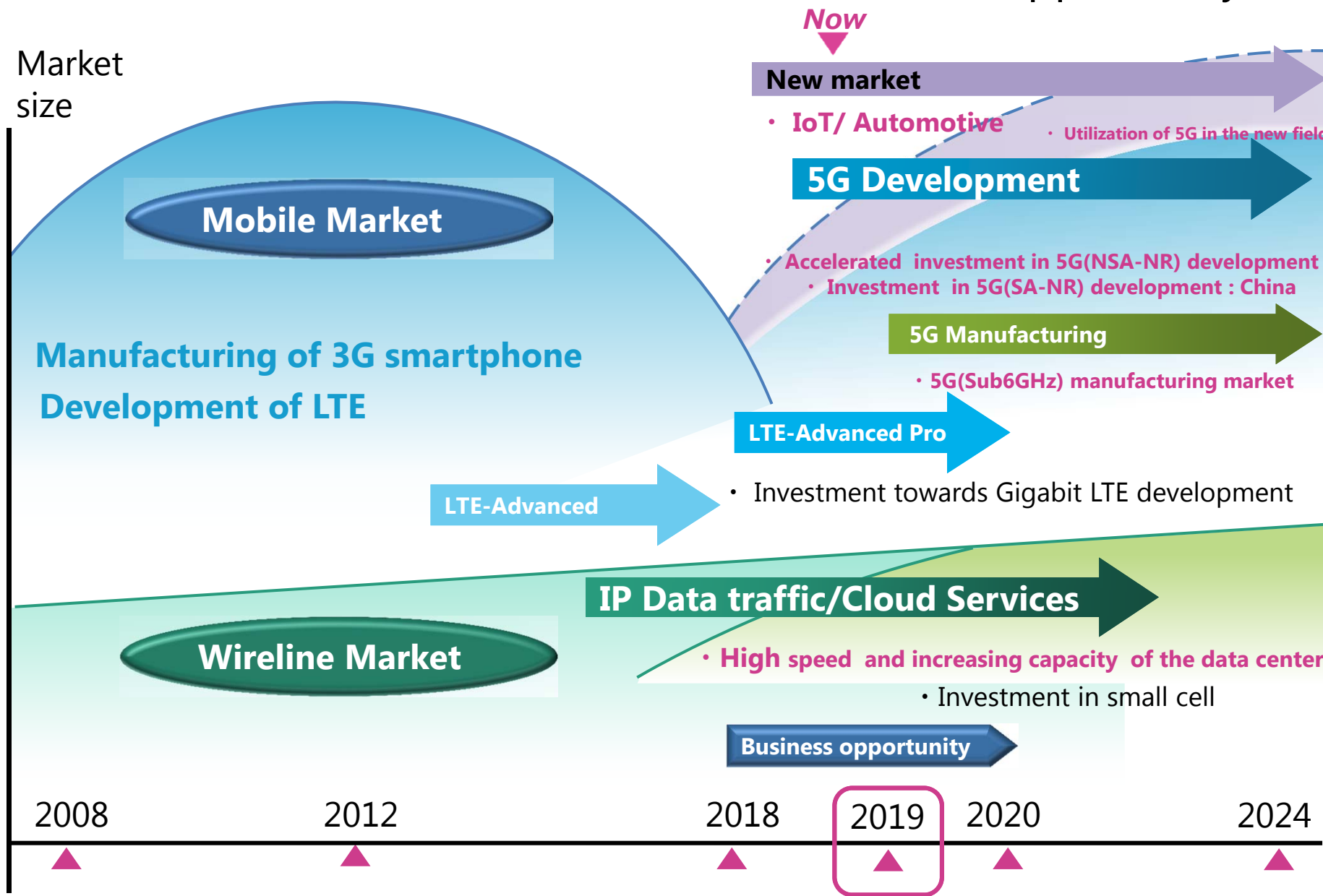


### Cost structure improvement measures

- 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

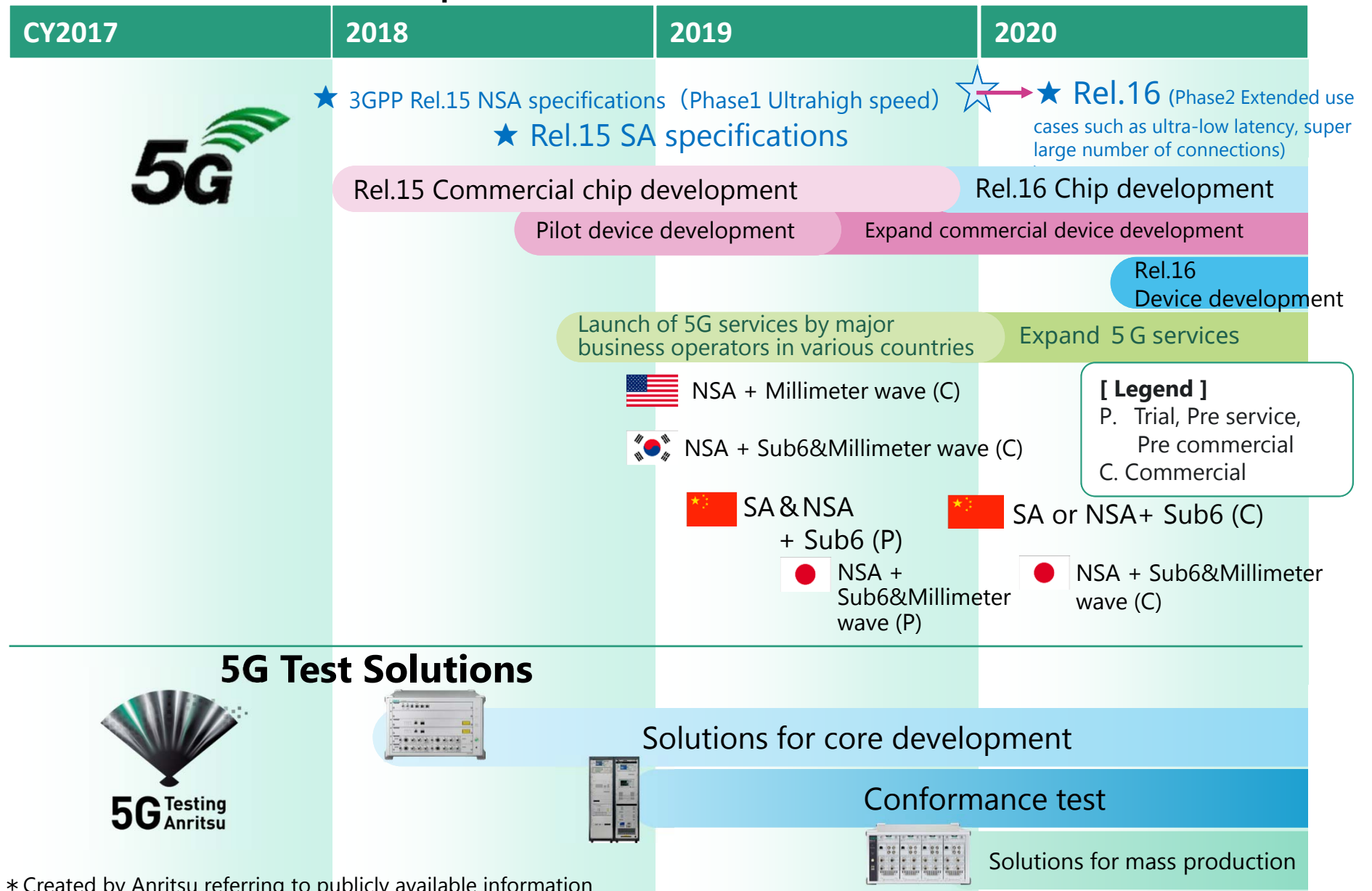
\*1:KPI target index for R&D investments is an R&D ROI(gross profit / R&D investment value) of 4.0times or higher.

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



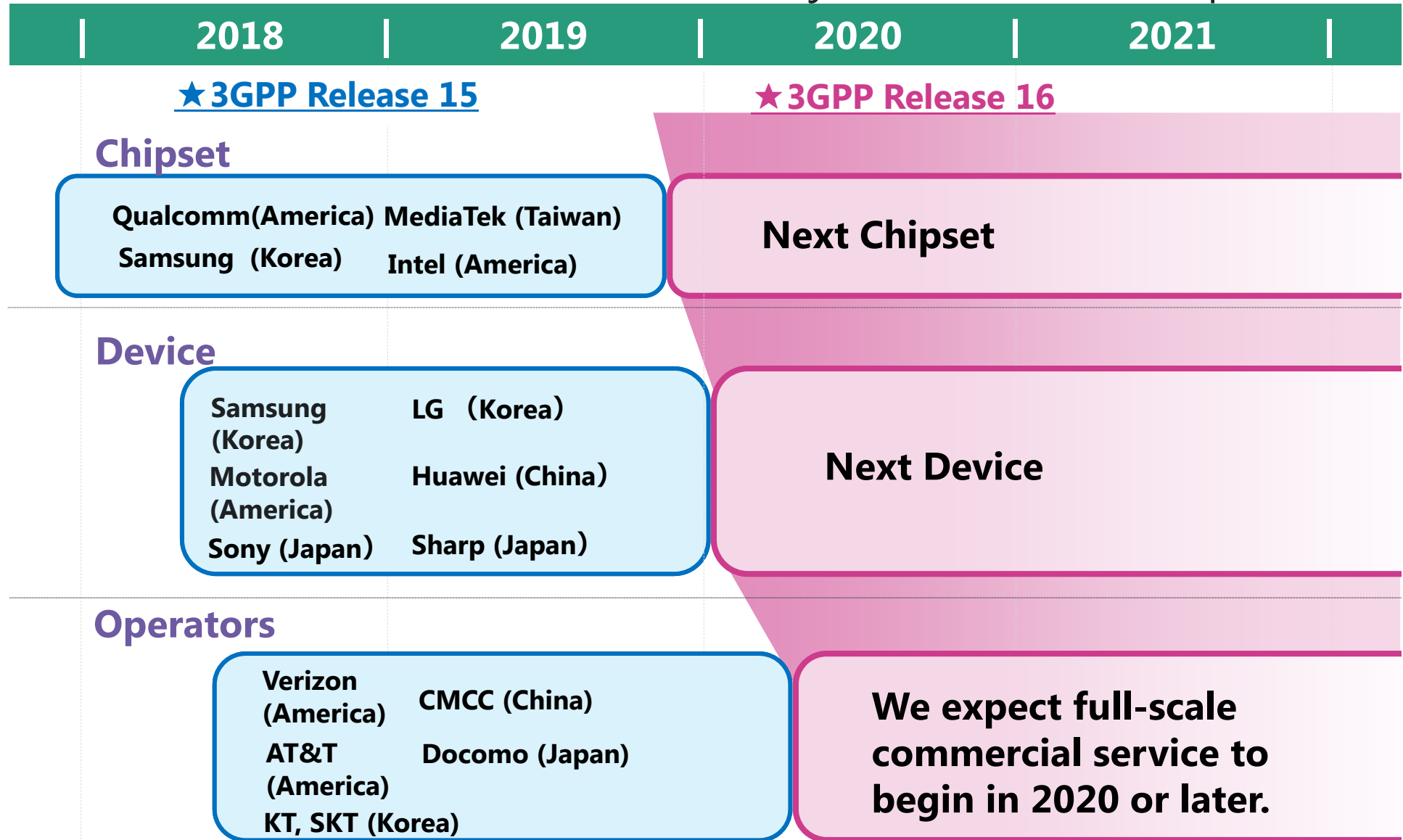


## II -2-1. Roadmap of 5G



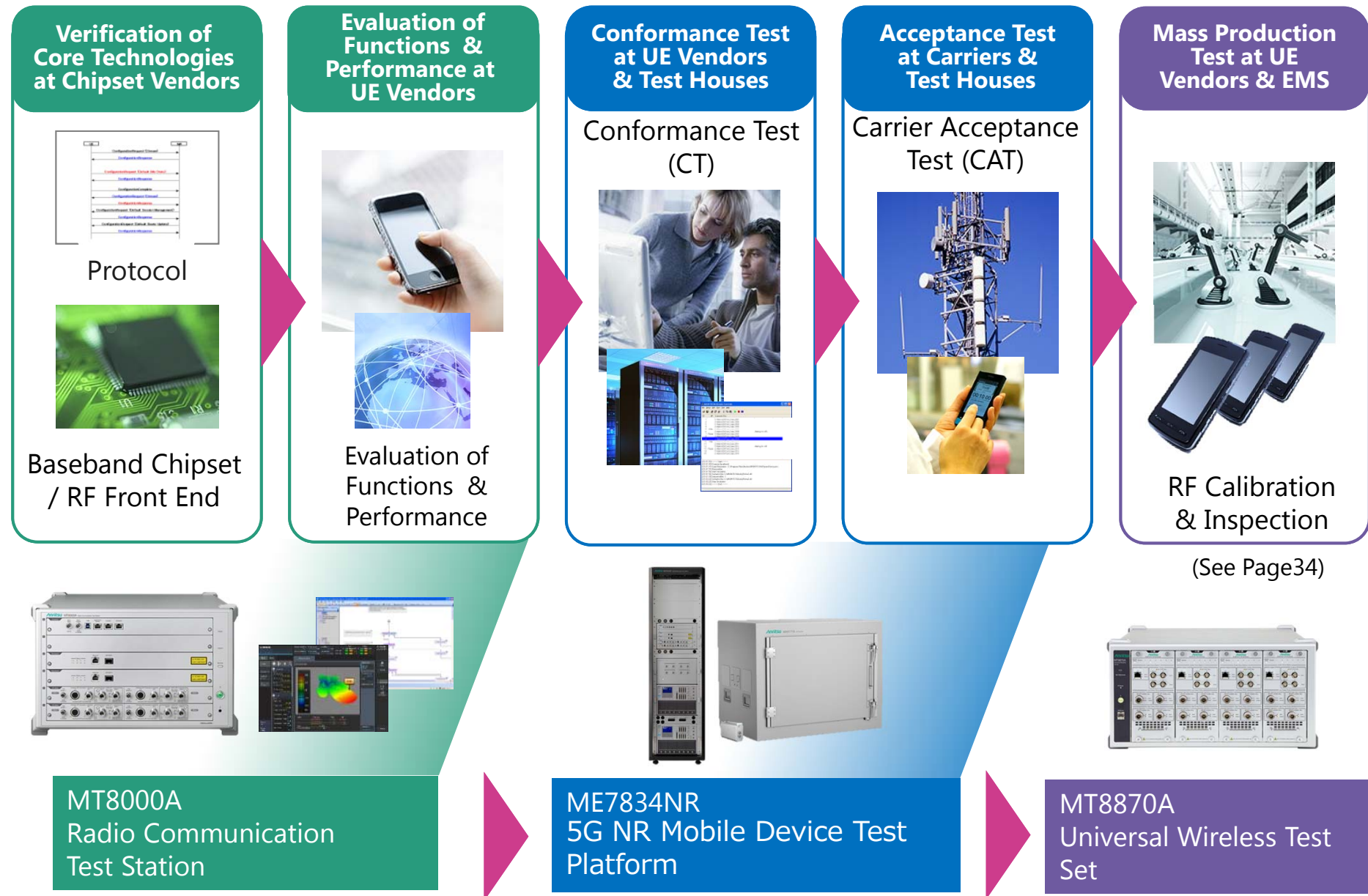
\* Created by Anritsu referring to publicly available information

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








\*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

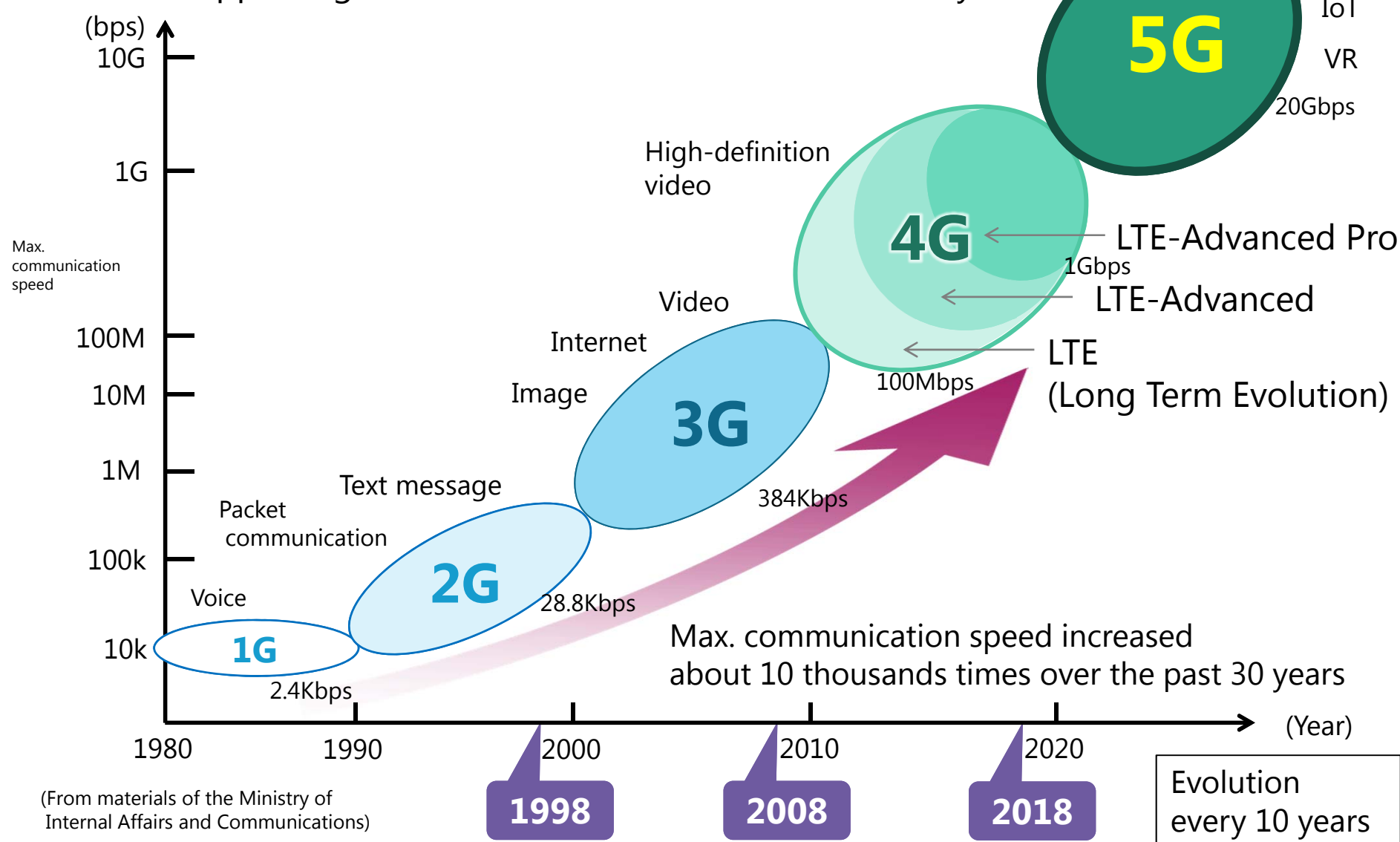


## II -2-4. Mobile R&D business and solutions (The case of LTE)

	Platform(Core) Development	Conformance test		Operator Acceptance test	Smartphone Commercial test
		RF	Protocol		
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 vendor, Communication Carrier		Com Carrier, Test house, UE 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

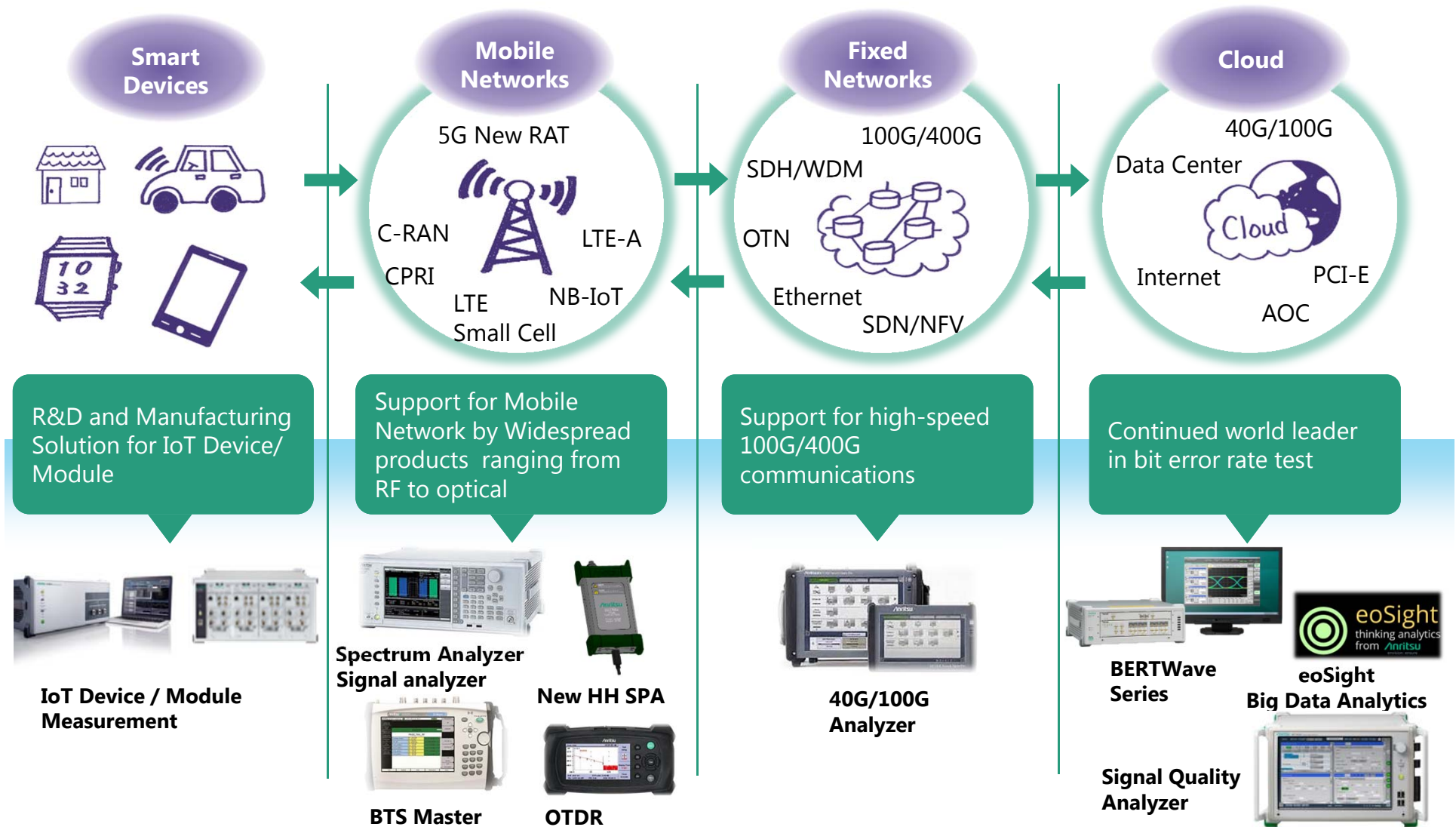
## II -2-5. Evolution of mobile communication

Supporting evolution of mobile communication system



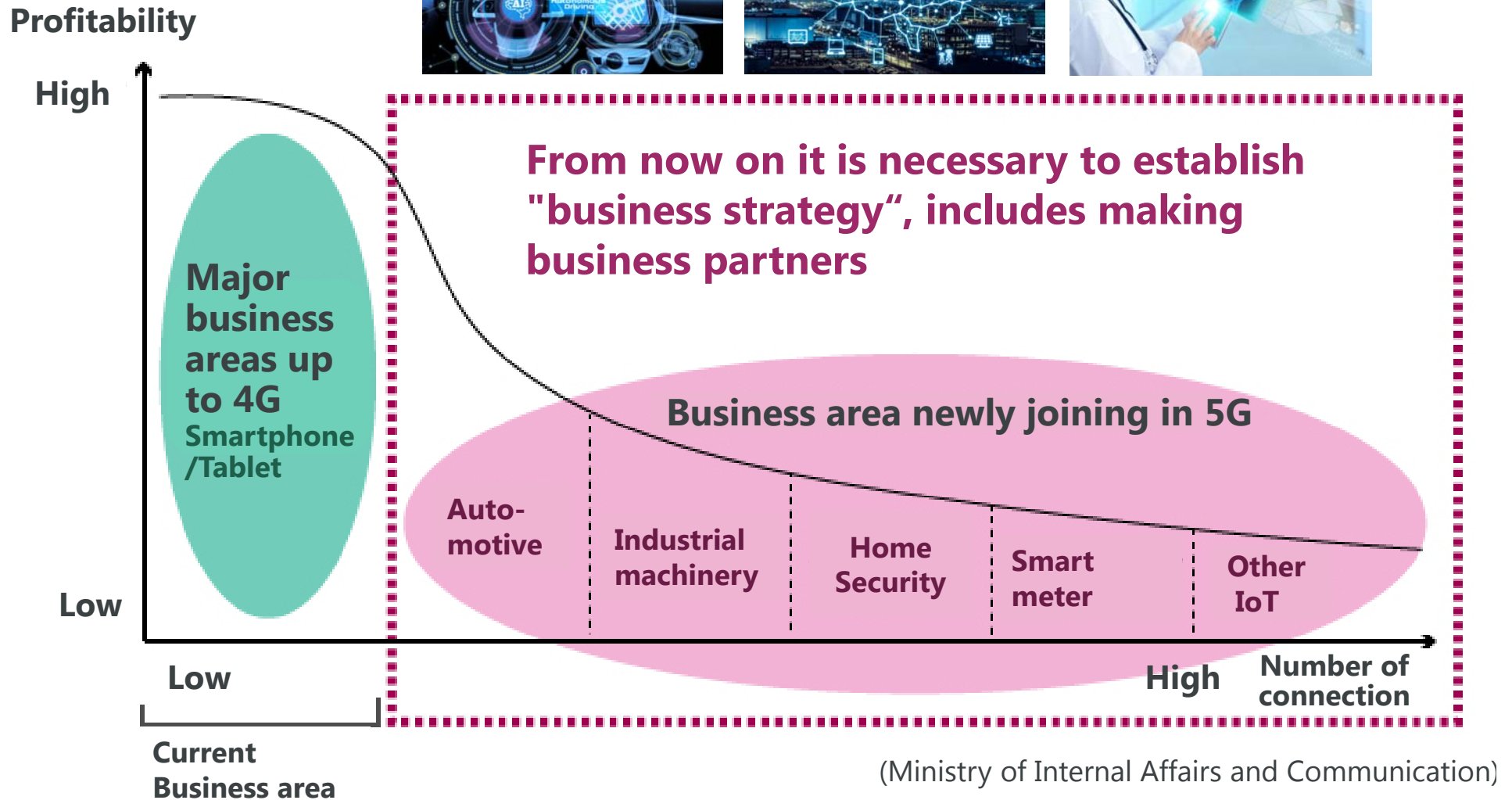
## II -2-6. Contributing to the establishment of 5G network infrastructure

**Features of 5G :  $1/10 \times$  Latency     $100 \times$  Peak Data Rate     $100 \times$  Capacity**

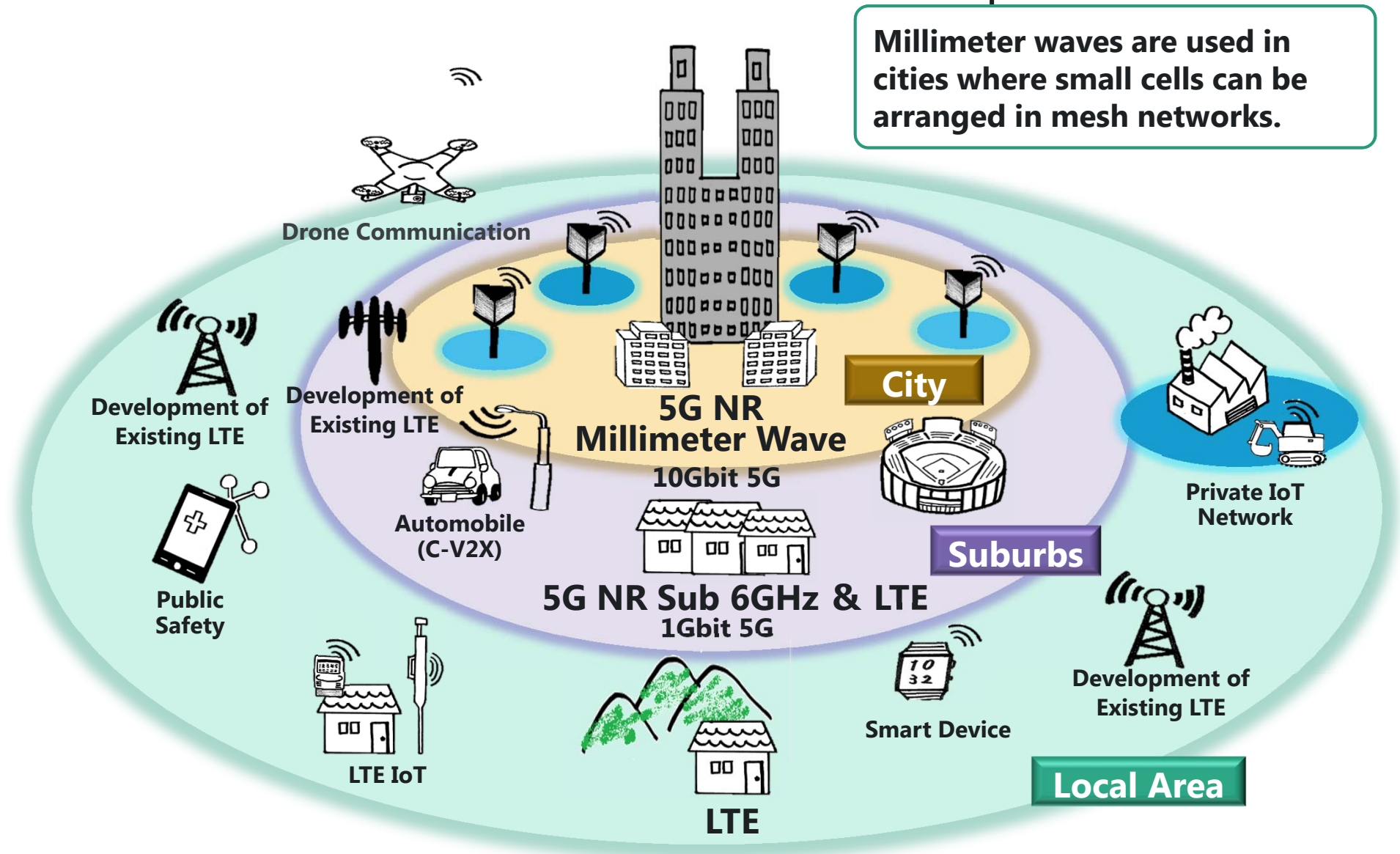




## II -2-7. 5G will become the infrastructure of social innovation

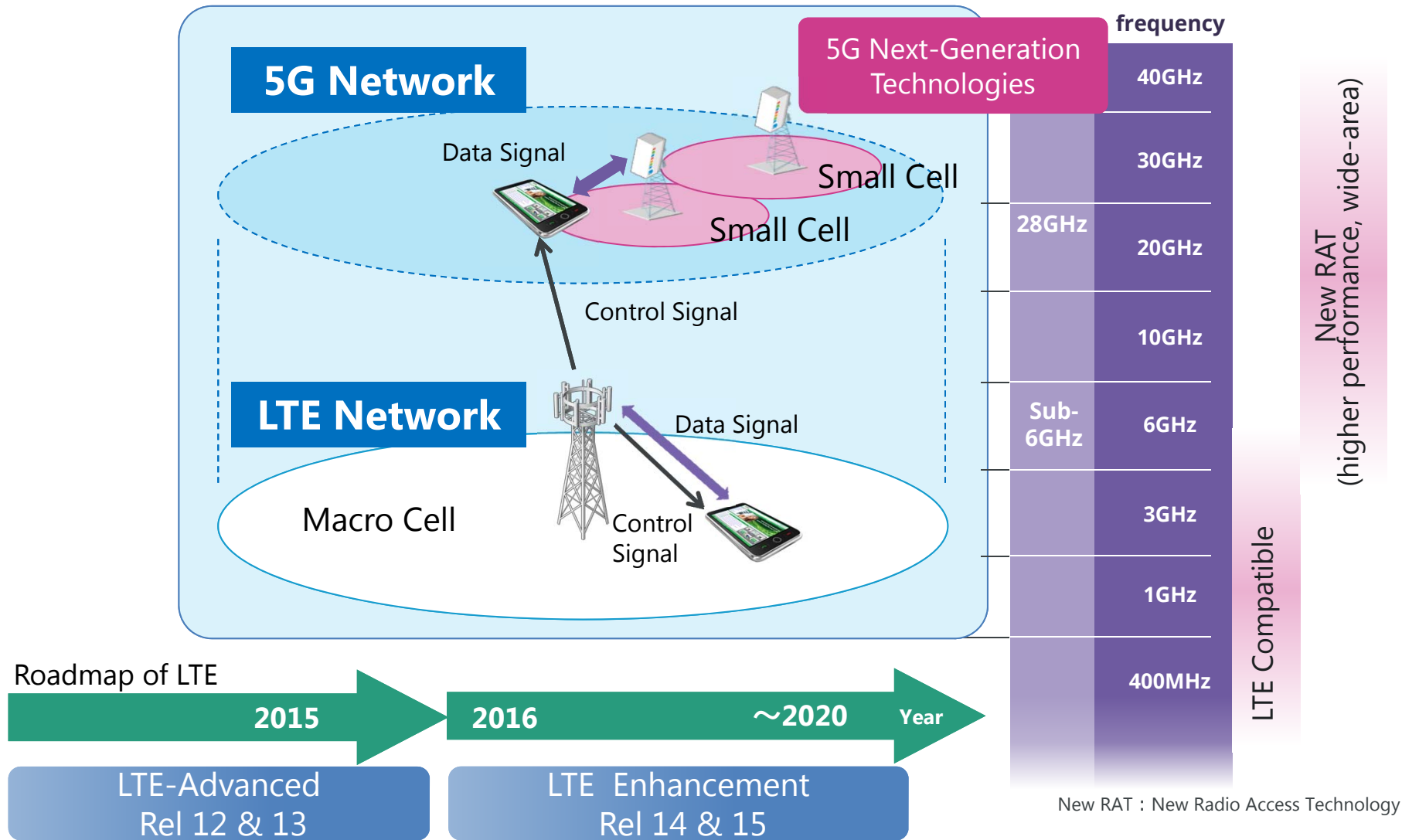


## Ⅱ -2-8 . Outlook for 5G Service Development

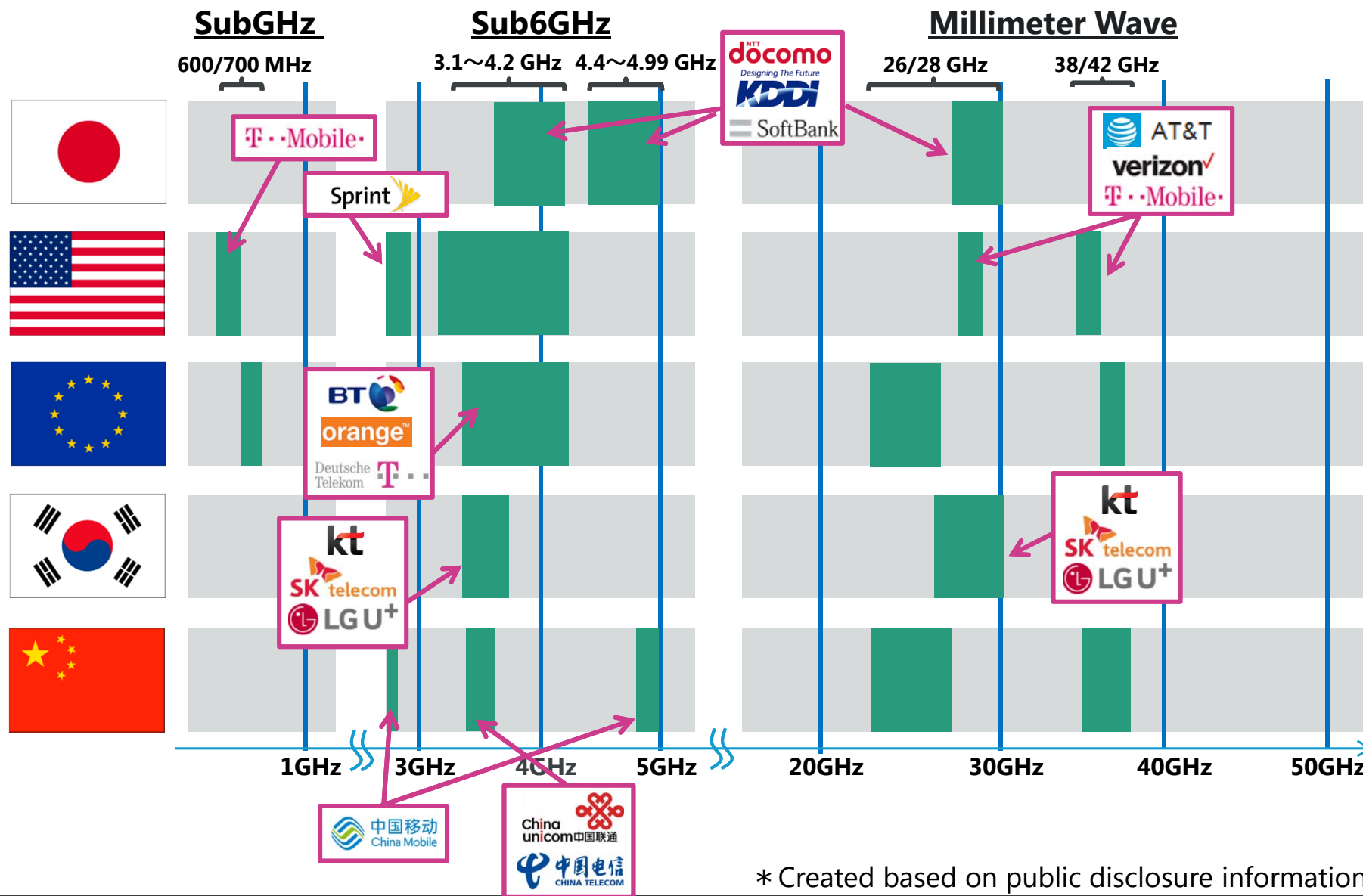


## II -2-9. 5G and LTE coexist and interwork

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



## II -2-10. 5G Band Allocations in the World



\* Created based on public disclosure information.

## II -2-11. 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

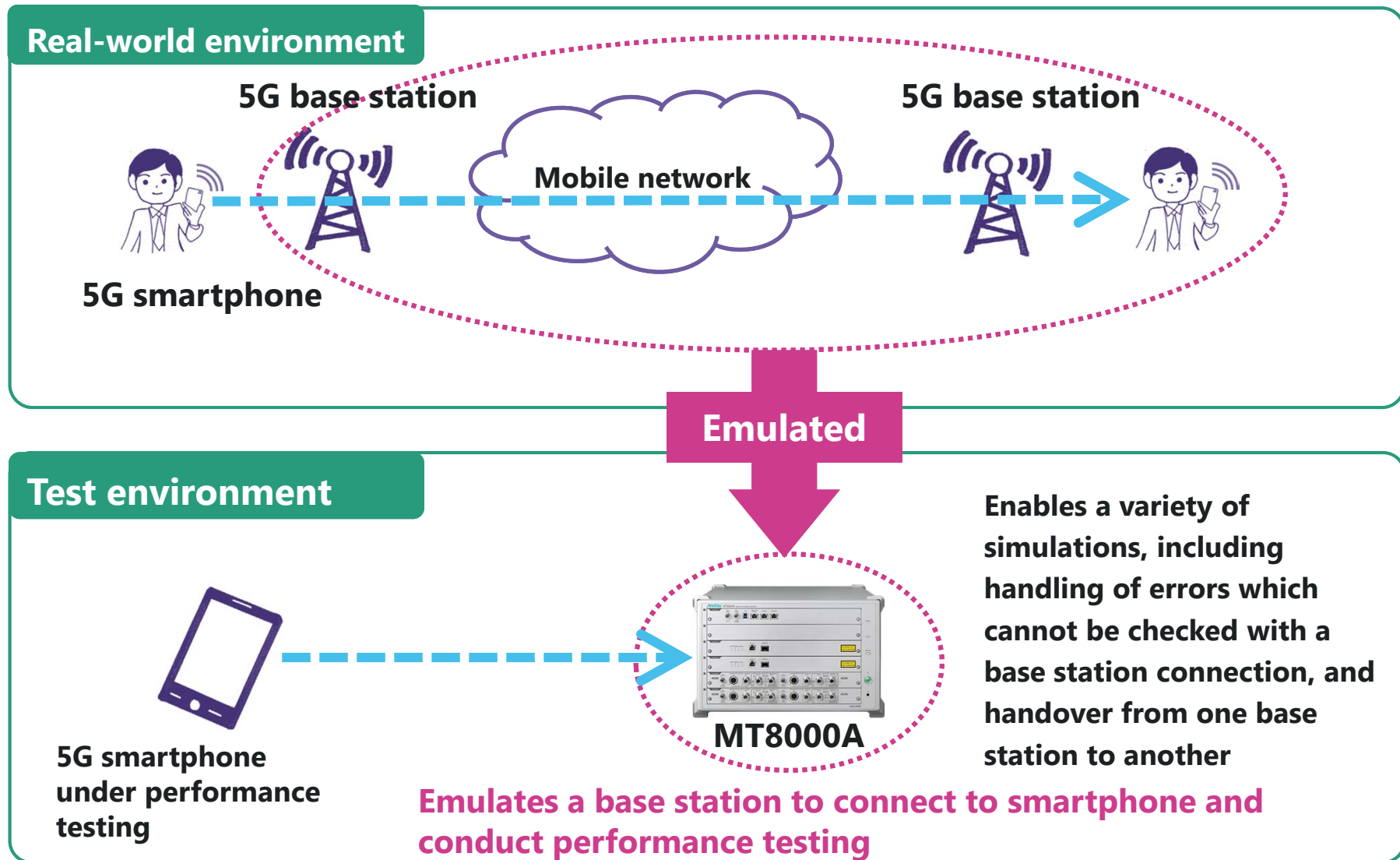
Chamber(Anechoic box)



MT8000A



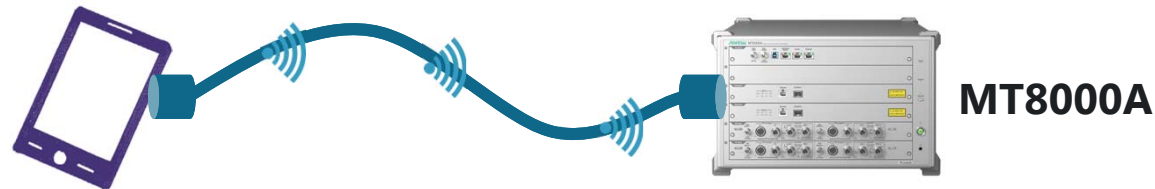
## II -2-12. Role of MT8000A





## Ⅱ -2-13. High-frequency (millimeter wave) measurement technology

### For low-frequency



**Accurate measurements are possible with a cable connection.**

### For high-frequency (millimeter wave)

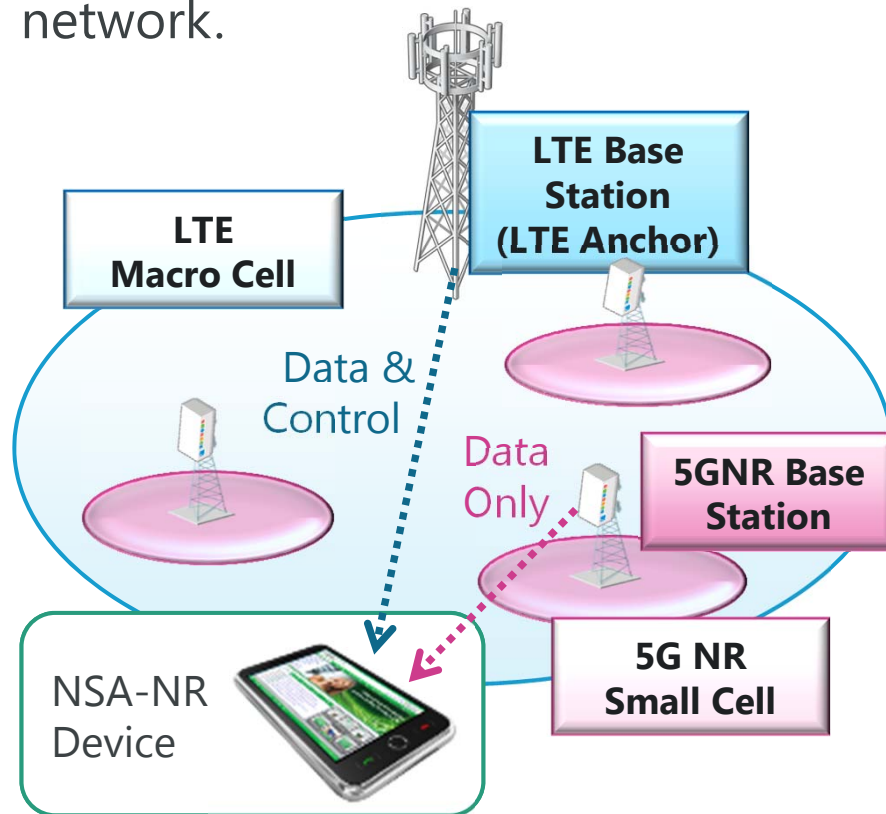
**Accurate measurements are possible with Over The Air (OTA) using chamber.**



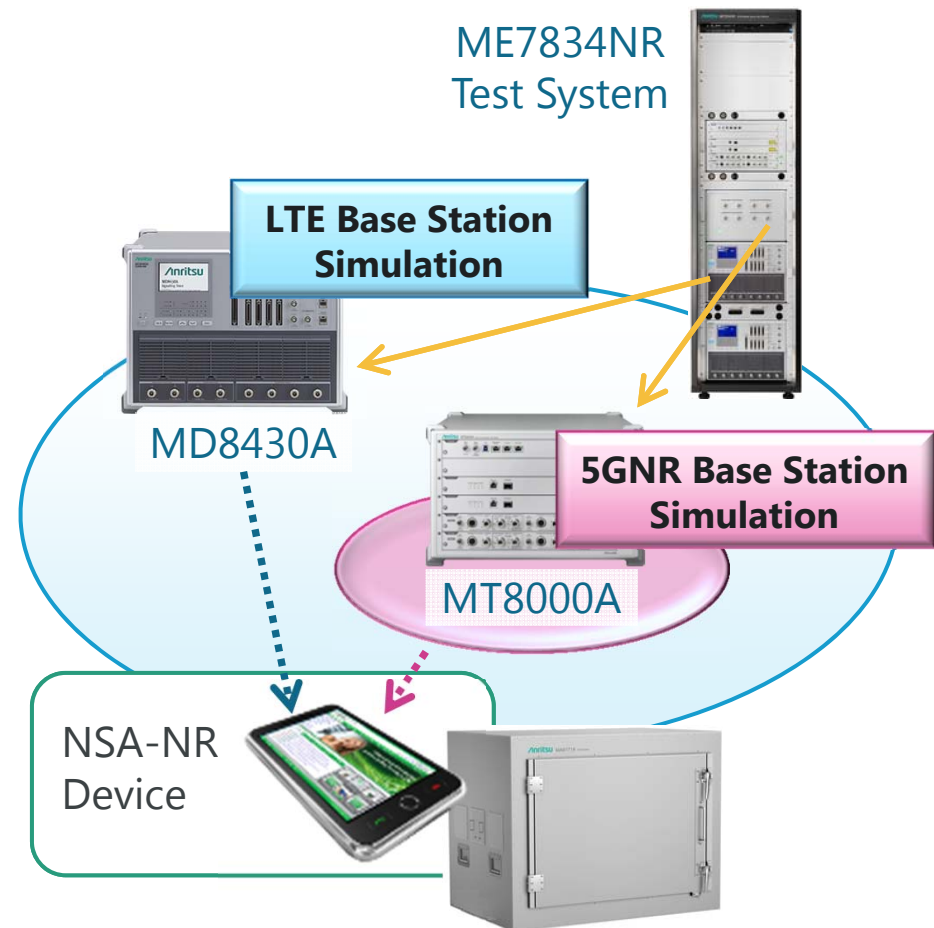
## II -2-14. Test solution for 5G NSA-NR terminal development

### NSA-NR Network Configuration

Introducing 5G utilizing the LTE core network.



### NSA-NR Test Environment



## II -2-15. 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

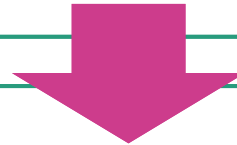
Frequency range : 9 kHz~32 GHz/44.5 GHz

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 -2-16. 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

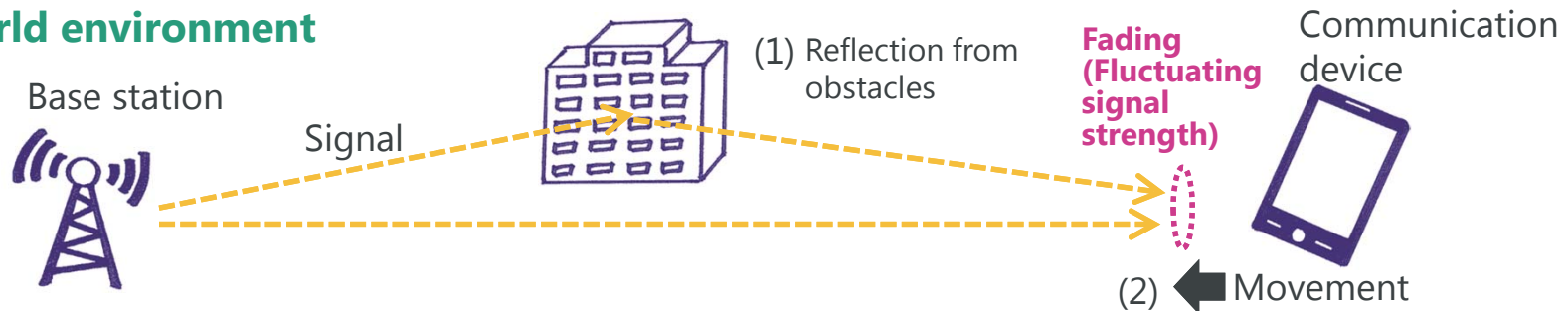
**Anritsu**  
envision:ensure

Mobile Devices  
Protocol Technology



**Azimuth**  
Network Infra.  
RF Technology

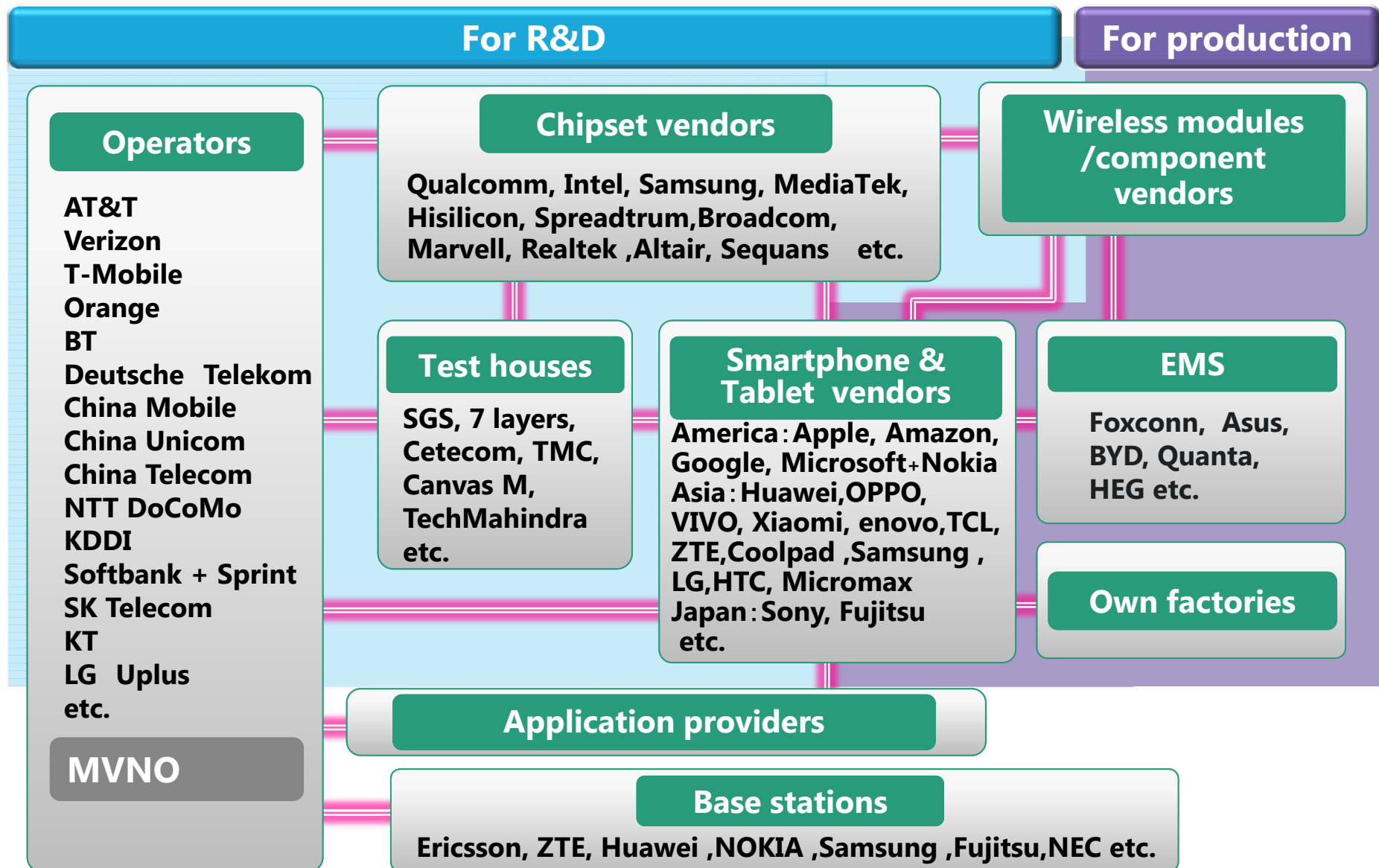
### Real-world environment



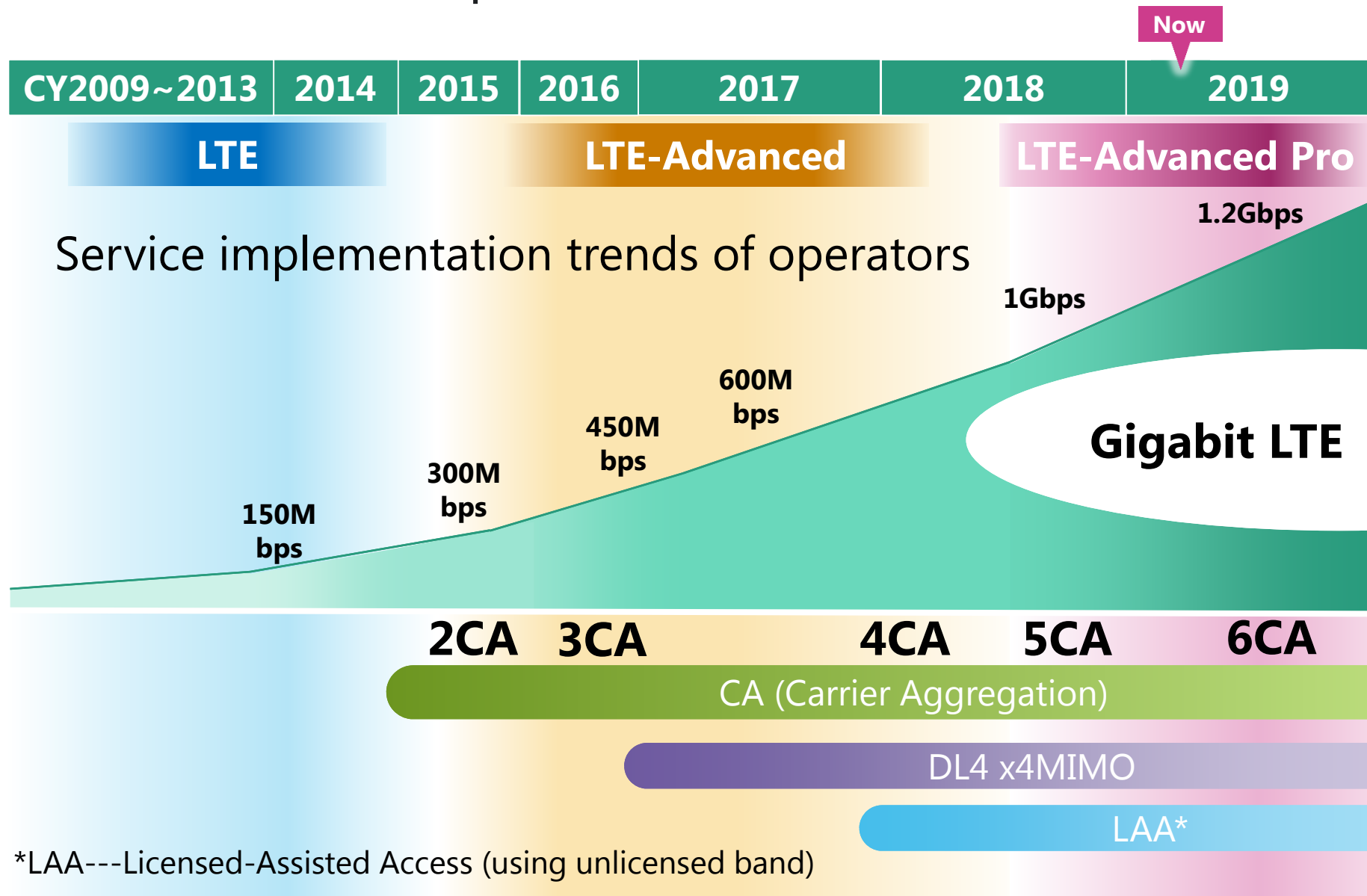
### In the lab (e.g., communication device testing)



## II -2-17. Food chain and players in mobile telecom market



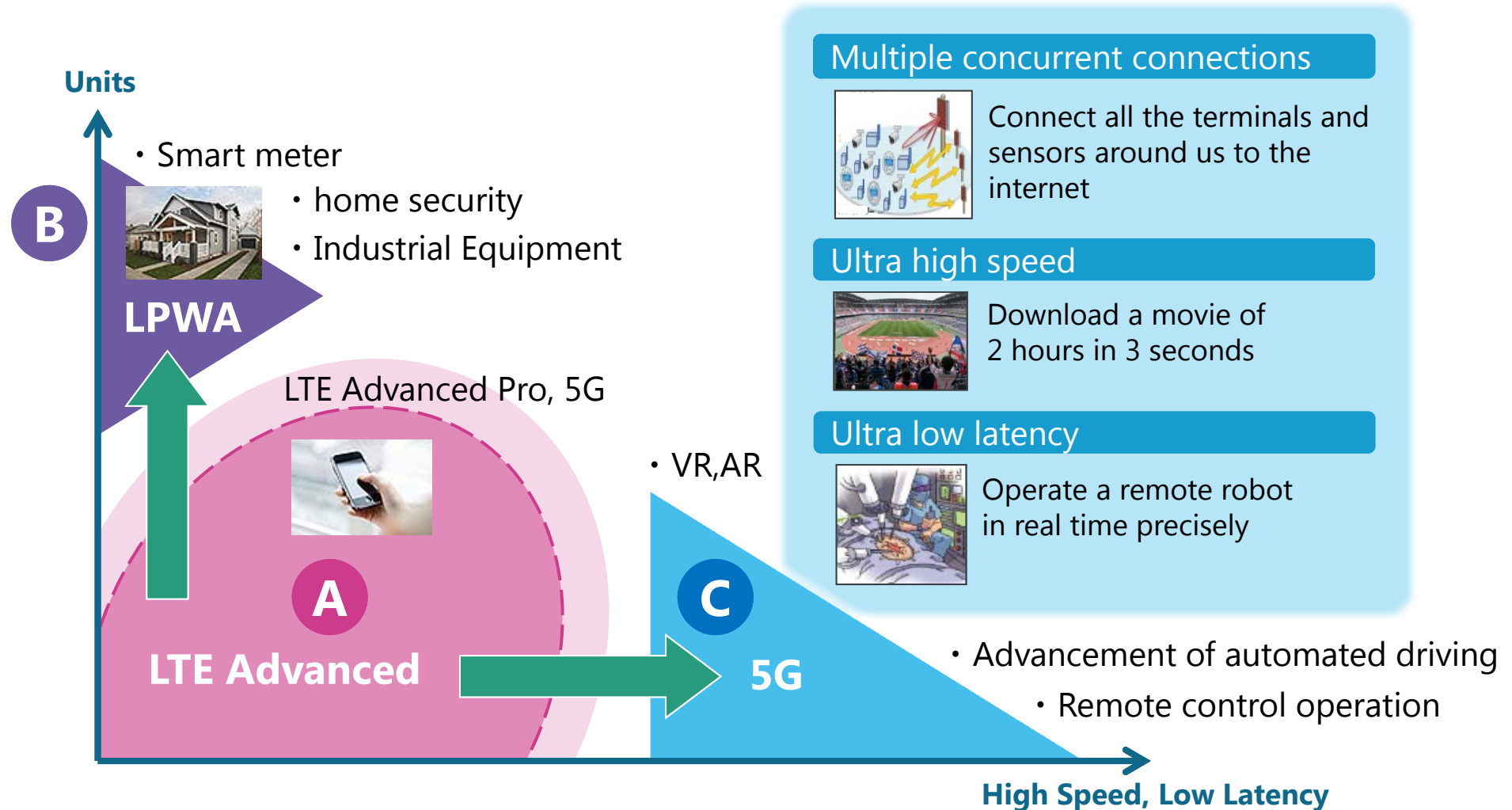
## II -2-18. Roadmap of LTE service





## 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

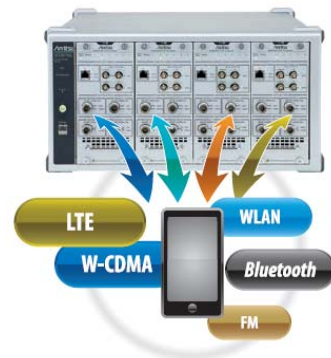
A

### Current features

1. 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

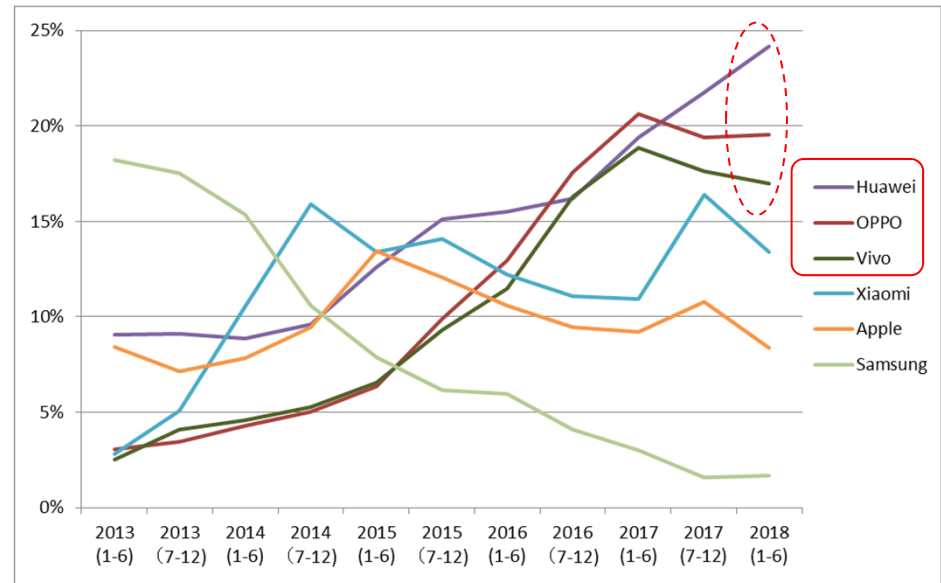
MT8870A  
**Universal  
Wireless Test Set**



**Main Competitors**

Rohde & Schwarz, Keysight

Smartphone Shipment Market Share in China by Vendor \*



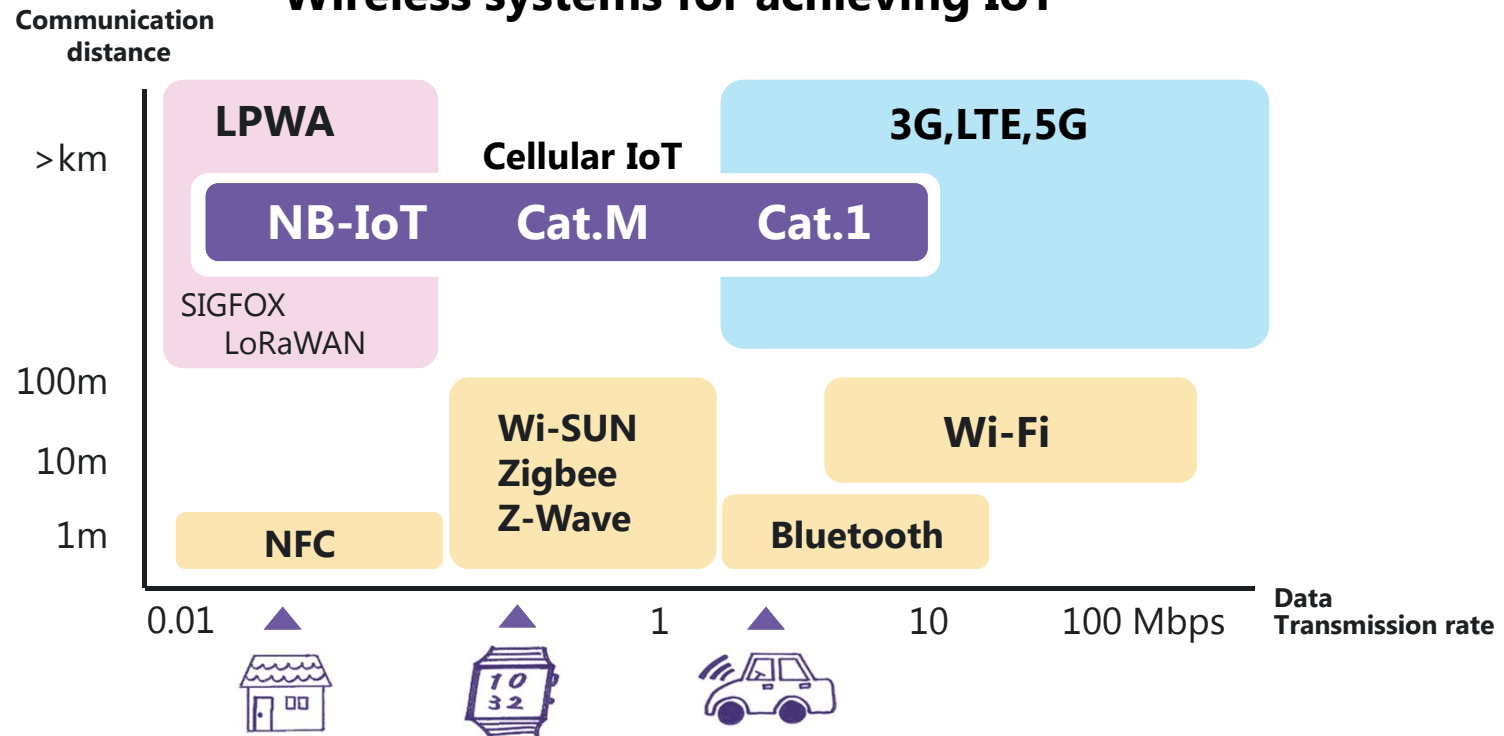
\*Source : Gartner "Market Share: PCs, Ultramobiles and Mobile Phones, All Countries, 2Q18 Update" 24 Aug. 2018  
Smartphone = Basic Phone, Premium Phone, Utility Phone  
OS = Excluding WindowsRT and Proprietary  
Graph created by Anritsu based on Gartner research

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

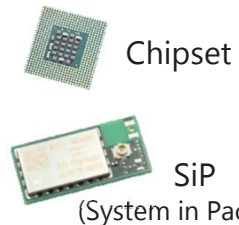
**B** -1

### Wireless systems for achieving IoT



#### R&D Solutions for Cellular IoT

MT8821C  
**Radio Communication  
Analyzer**



MD8430A  
**Signalling Tester**



#### Main Competitors

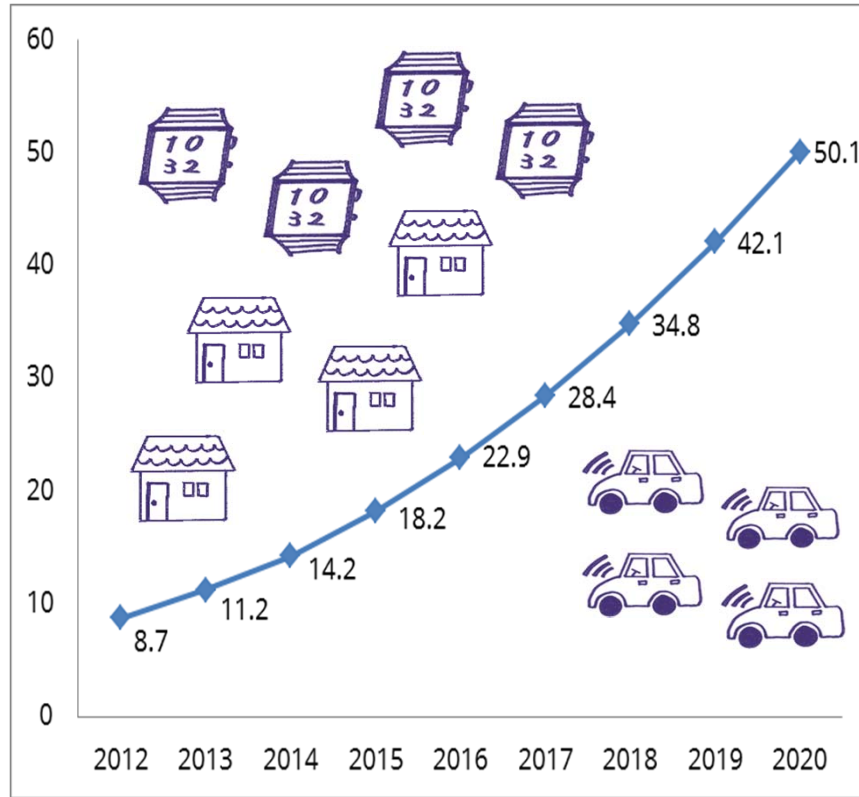
Rohde & Schwarz, Keysight

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

### B -2

[Billions]

The Number of IoT Devices



\*Source : World Economic Forum

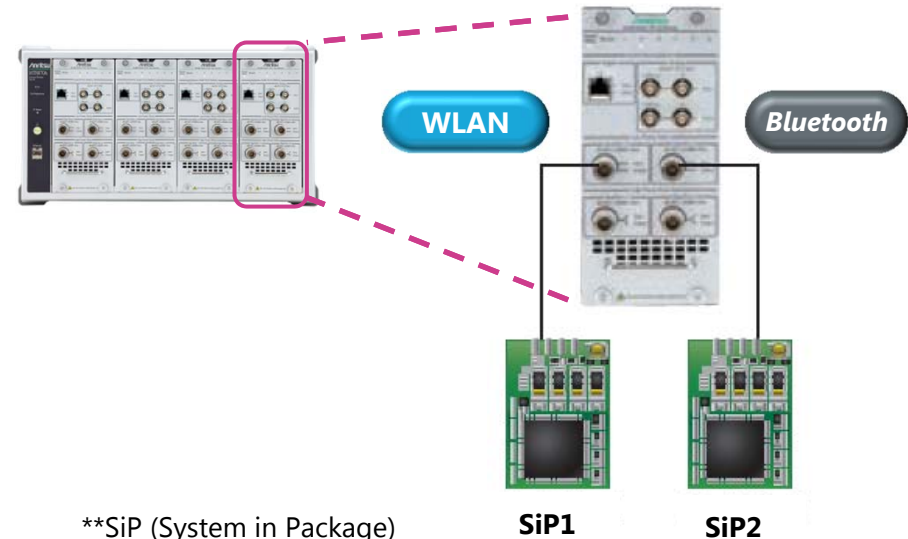
- The growth of Connectivity & Module markets for IoT

### For WLAN / Bluetooth

#### MT8862C Wireless Connectivity Test Set



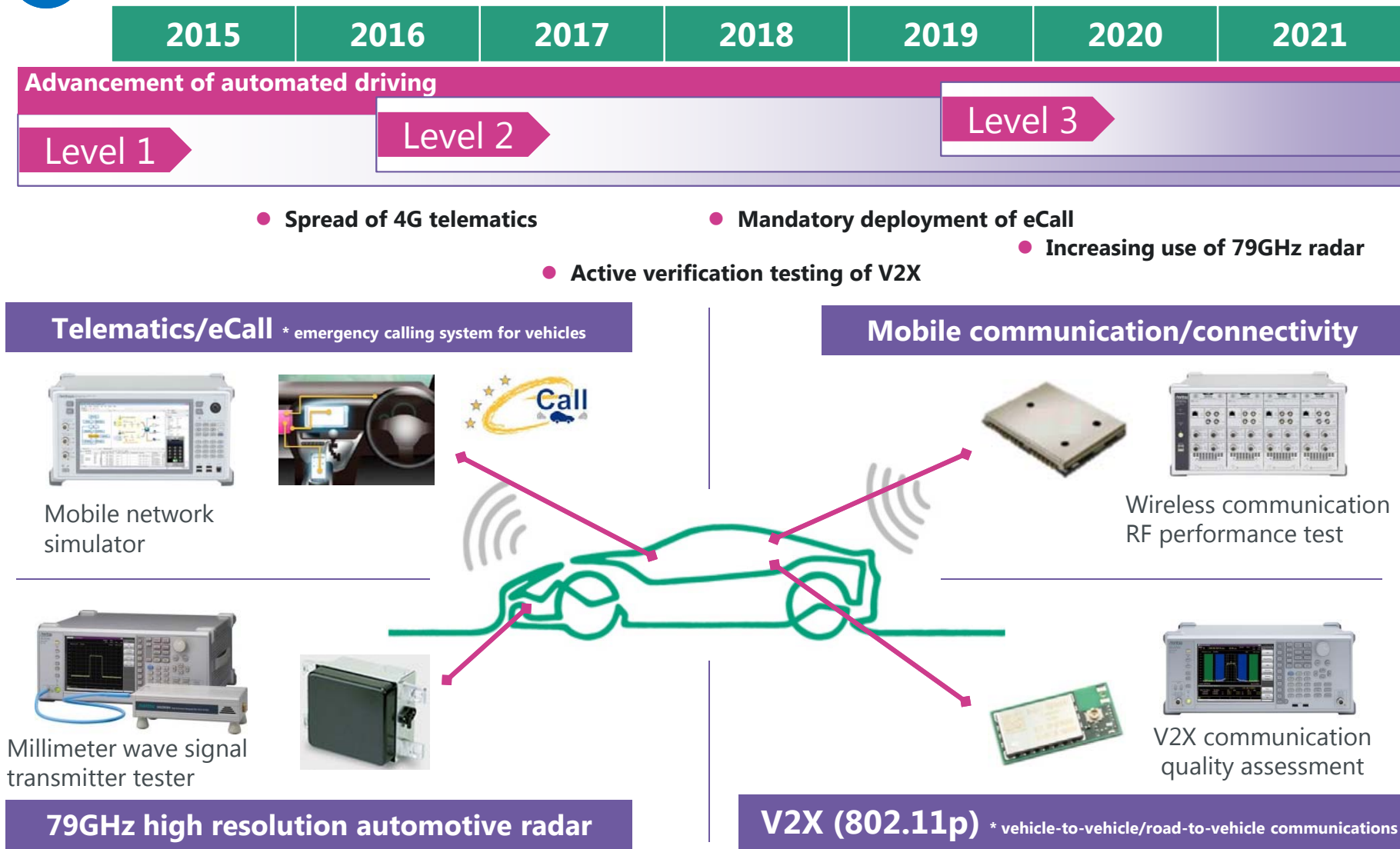
#### MT8870A Universal Wireless Test Set



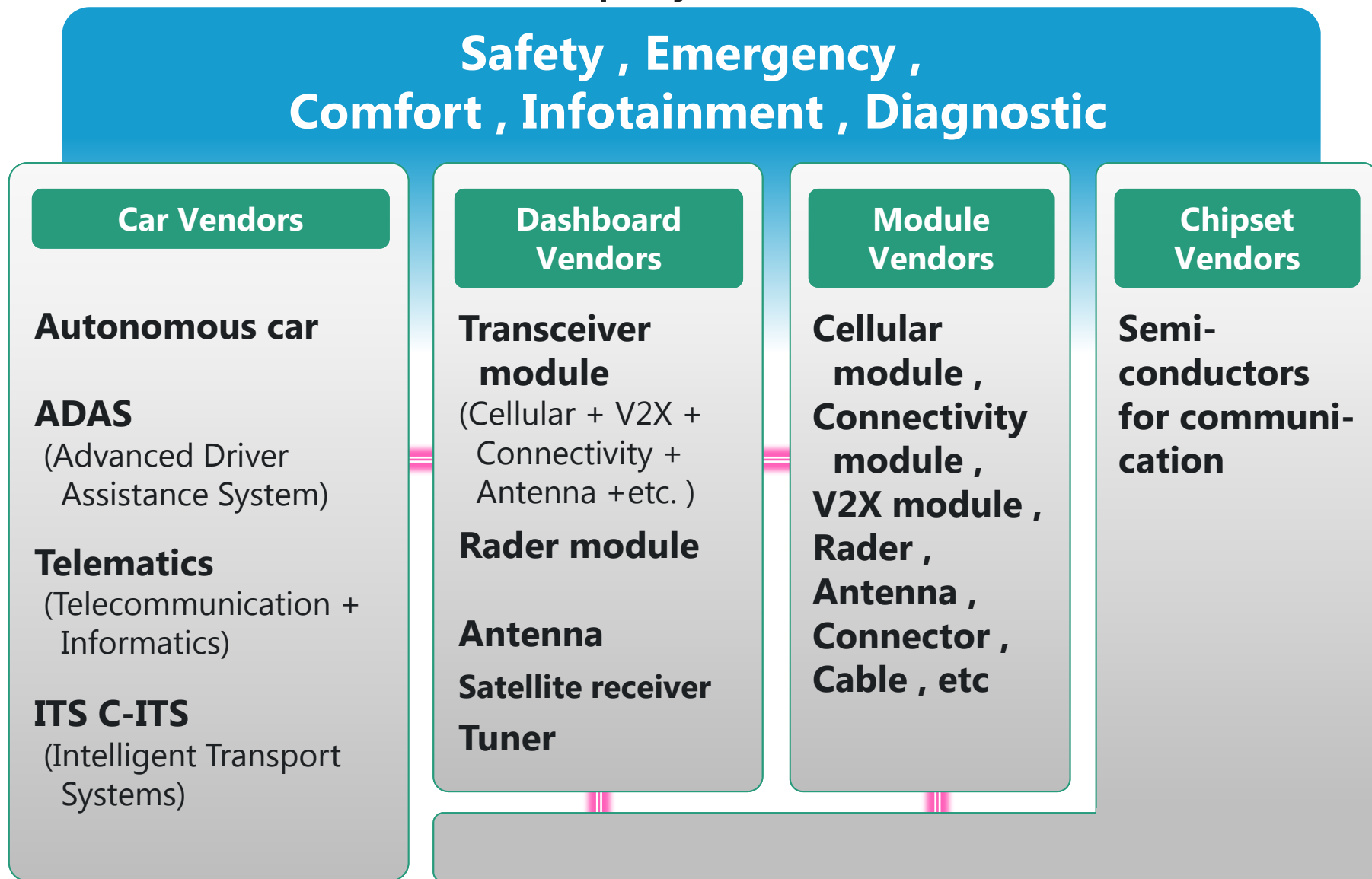
### Main Competitors

Teradyne, National Instruments, Rohde & Schwarz, Keysight

## II -3-4. Adoption of new technologies in the automotive market and Anritsu's initiatives



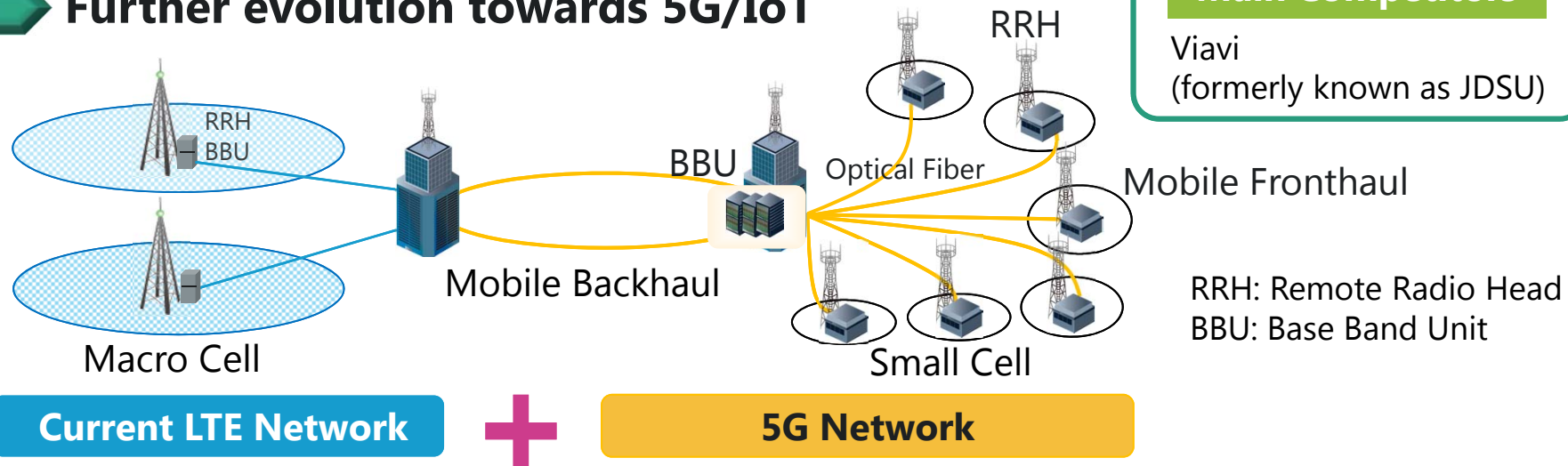
## II -3-5. Food chain and players in Automotive market



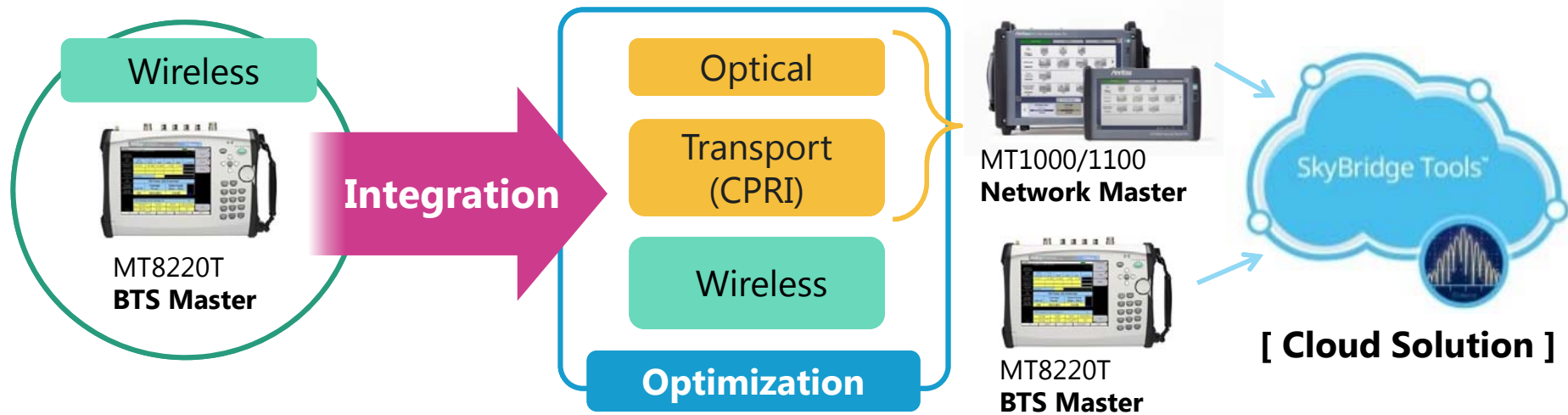


## II -4. Network Reshaping Test Solutions

### ➡ Further evolution towards 5G/IoT

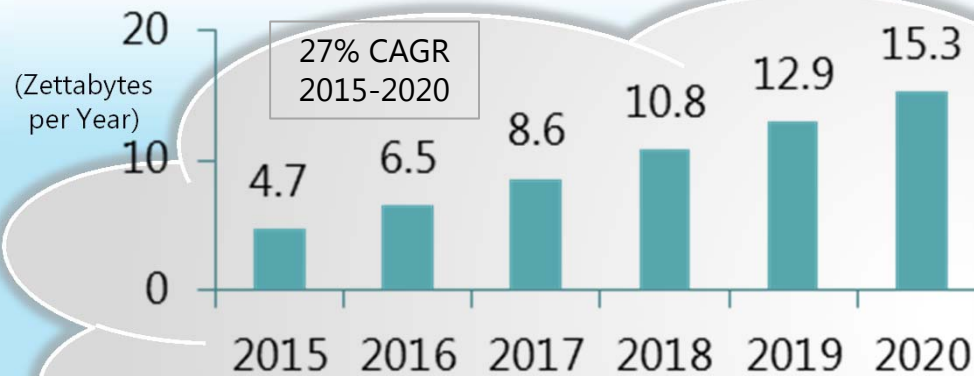


### ➡ Reshaping the Future of Network Test Solution



## II -4-1. Test Solutions for support of Cloud Service expanding

### Data traffic extending explosively



**Global Data Center Traffic Growth**  
Source: Cisco Global Index 2015-2020



**Data Center**

- Expansion of Data Center
- Higher- speed
- Larger- capacity
- Conversion to fiber optics

**DCI**  
High speed communication  
10G/40GbitE → 100G/200/400GbitE

**Main Competitors**

Keysight

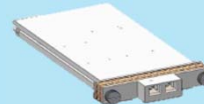
**R&D**



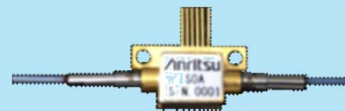
Equipment (Router, Switch)  
vendors in Data Center



Optical module  
vendors



Optical device  
vendors

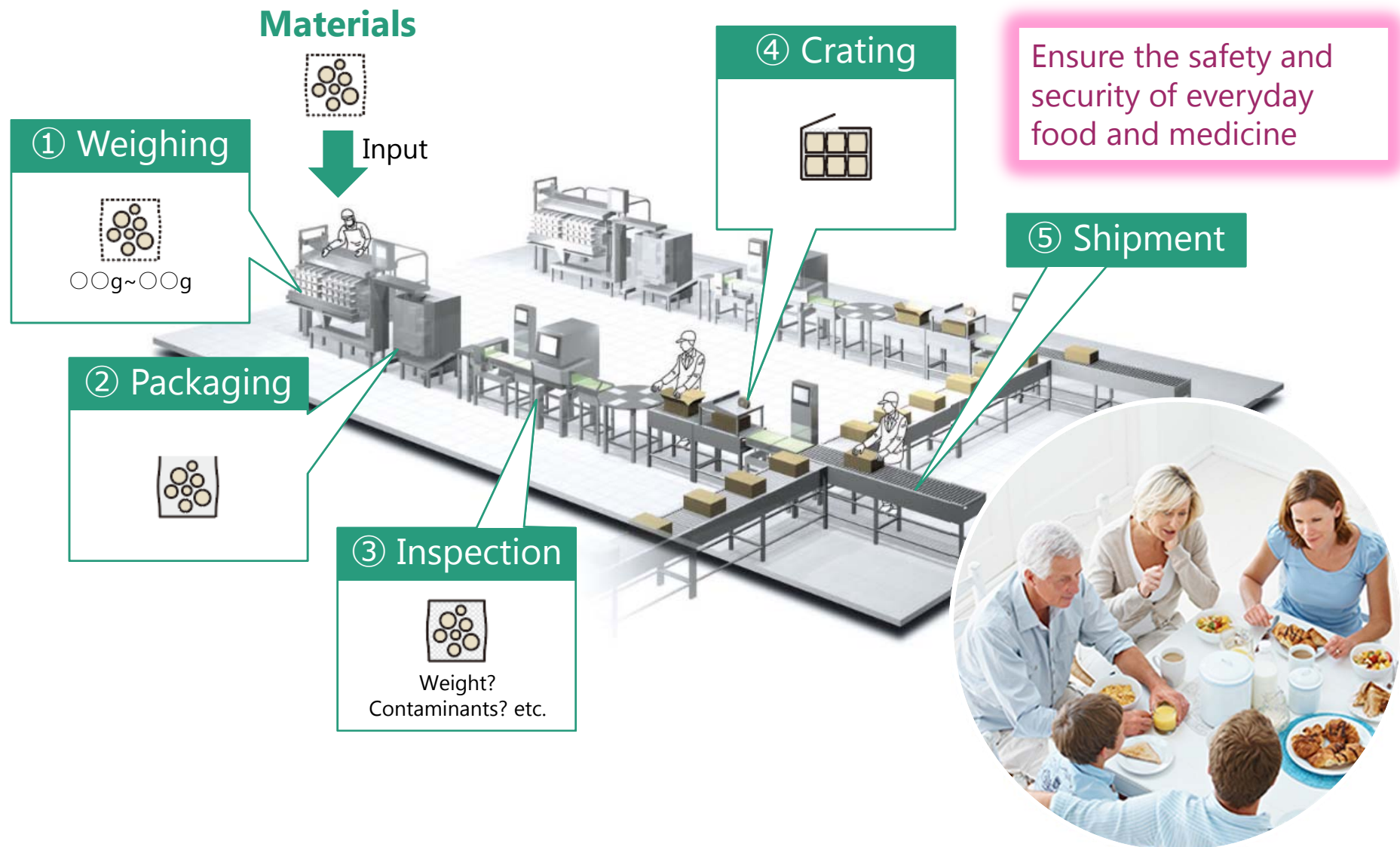


**Manufacturing, I&M**



### **Ⅲ. PQA Business segment**

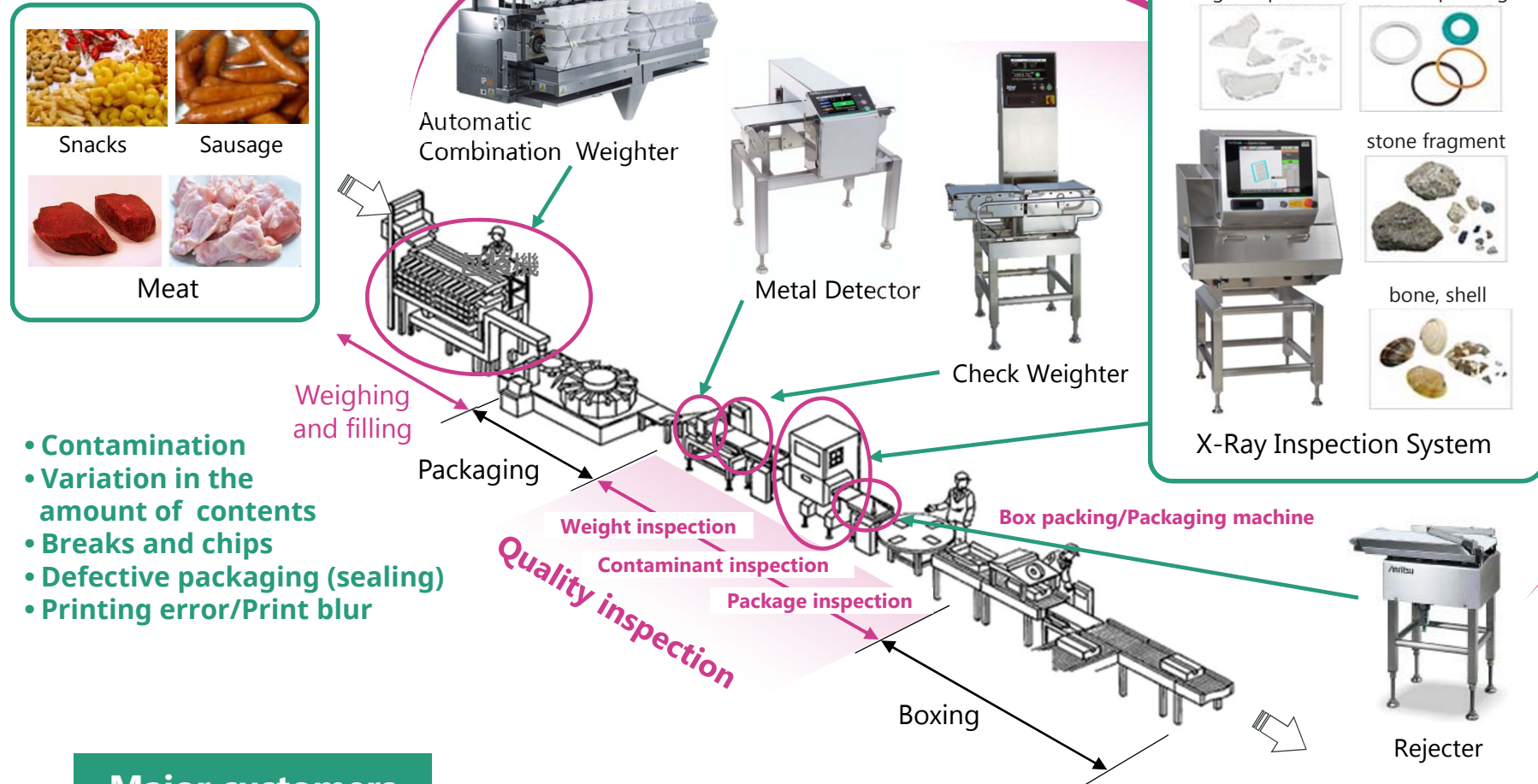
## III-1. Example of a Production line and Quality assurance





## III-2. PQA business segments (Products Quality Assurance)

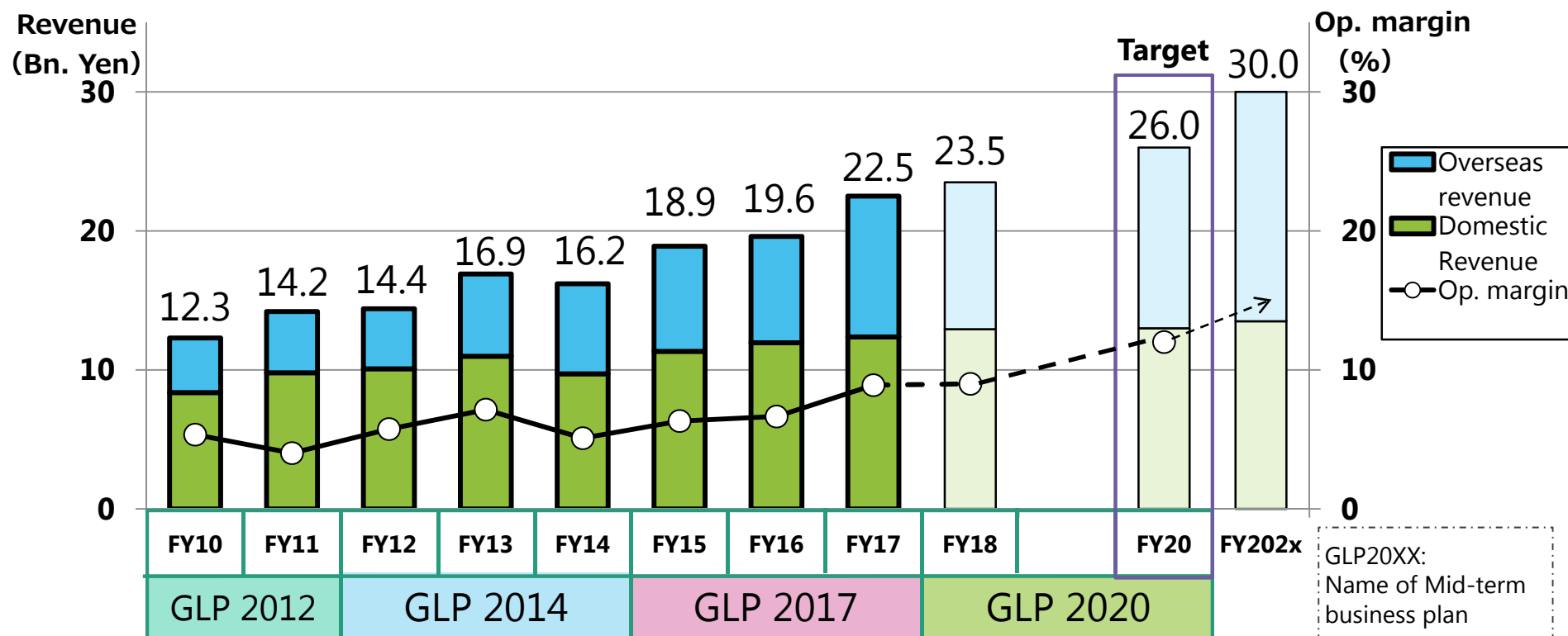
### General examples of food production process



### Major customers

Mondelez, Nestle, Kraft Heinz, Nippon Ham Group, Glico Group, Nissui Group, etc.

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



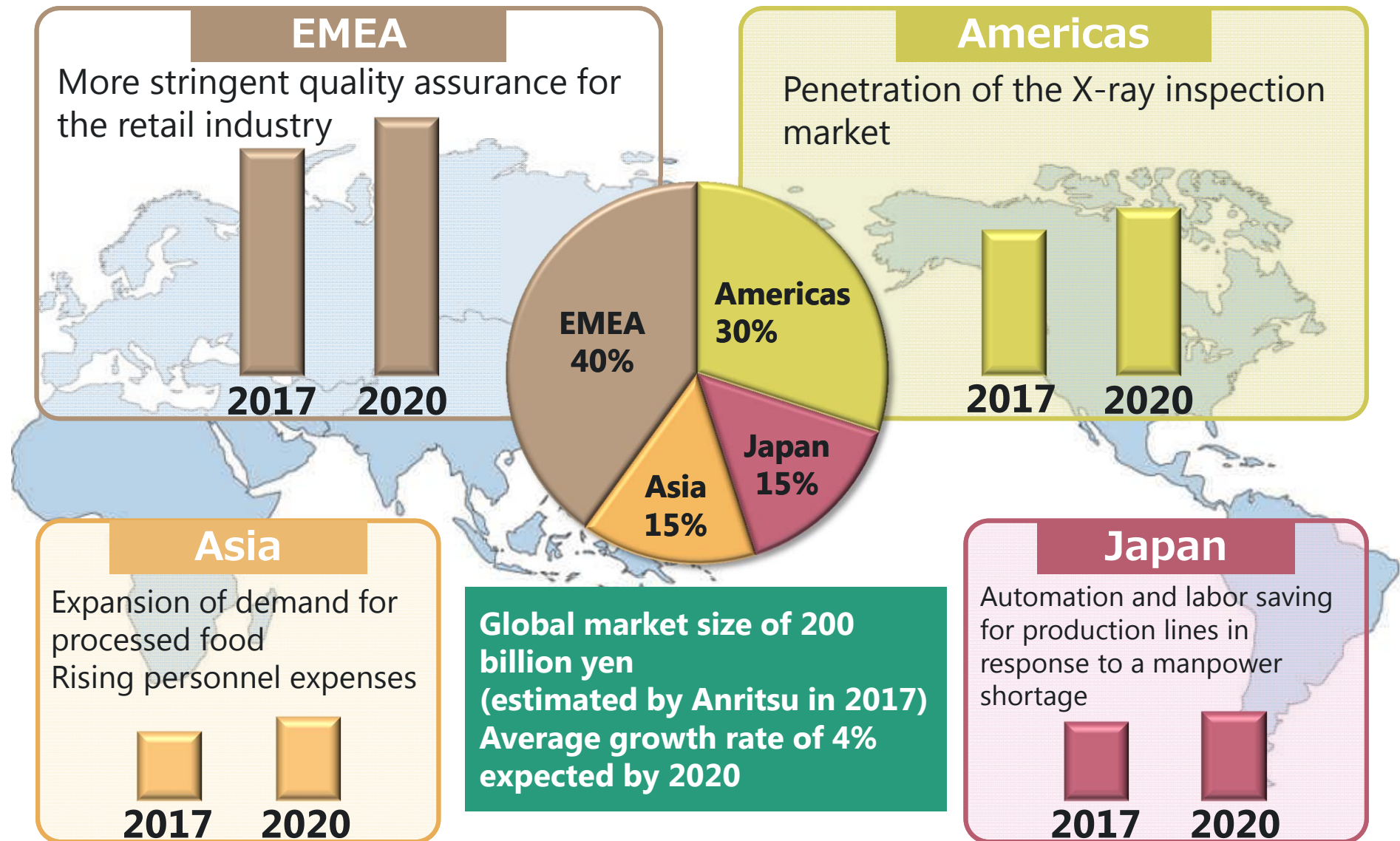
Market	Major initiatives
North America, EMEA, Asia	Develop market with X-ray inspection systems as a key solution
Japan	Improve market share through quality assurance solutions with high added value in response to cutting-edge needs

**Main Competitors**

Mettler-Toledo, Ishida, Marel

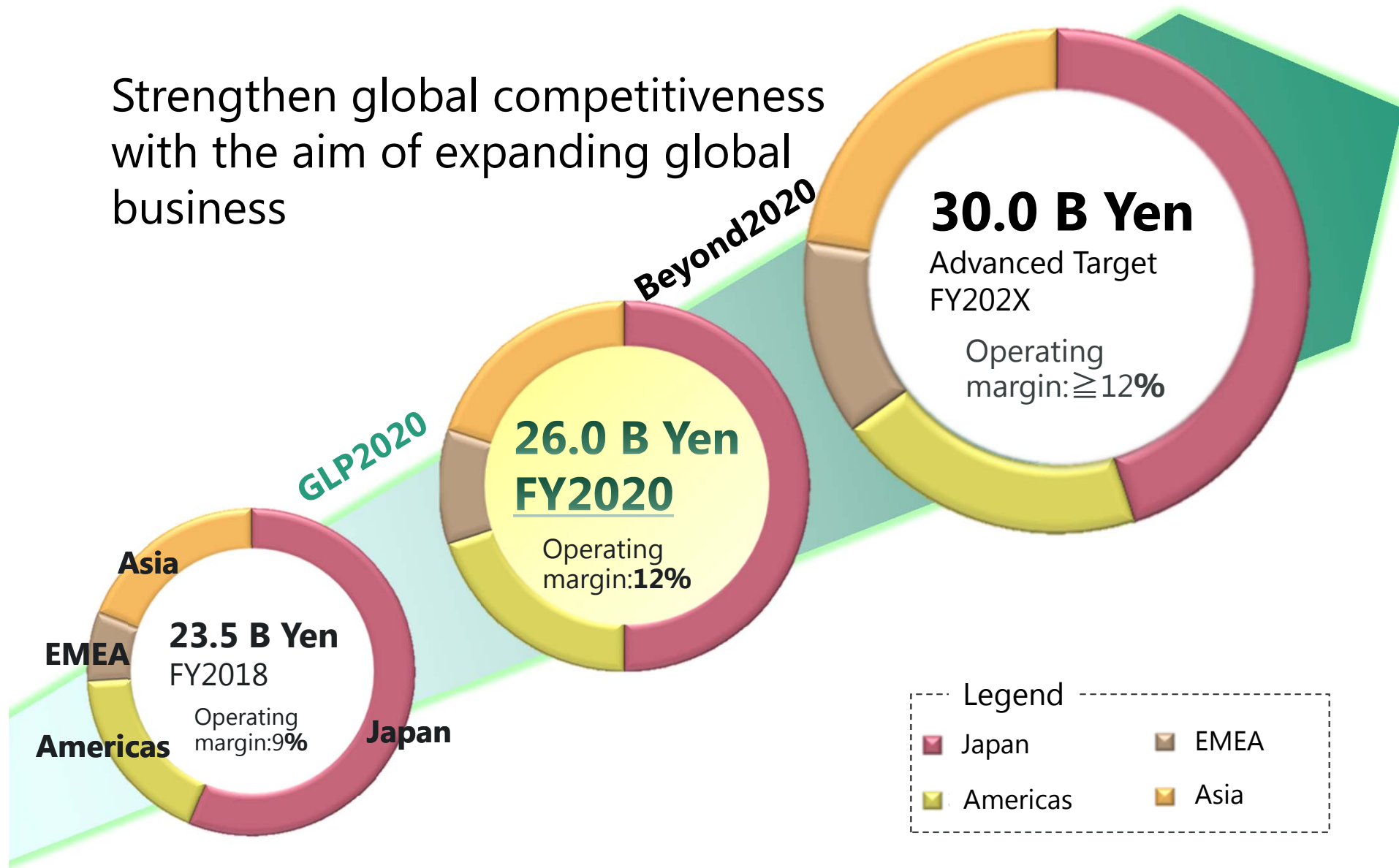


## Ⅲ-2-2. PQA Business: Current Status of the PQA Market and Outlook



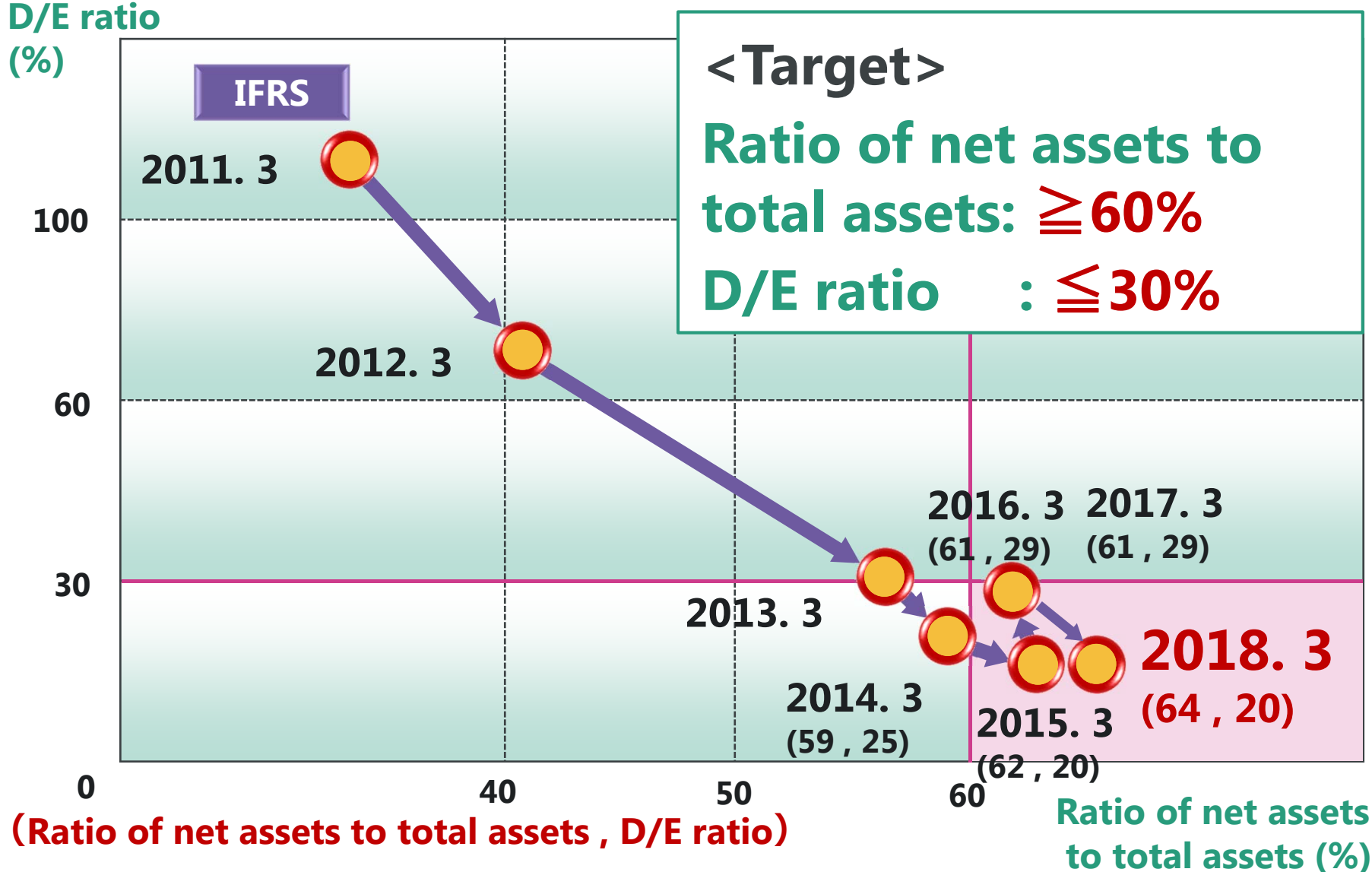
### Ⅲ-2-3. PQA Business : GLP2020 Revenue and operating profit plan

Strengthen global competitiveness  
with the aim of expanding global  
business



## IV-1. Financial Strategy

D/E ratio  
(%)

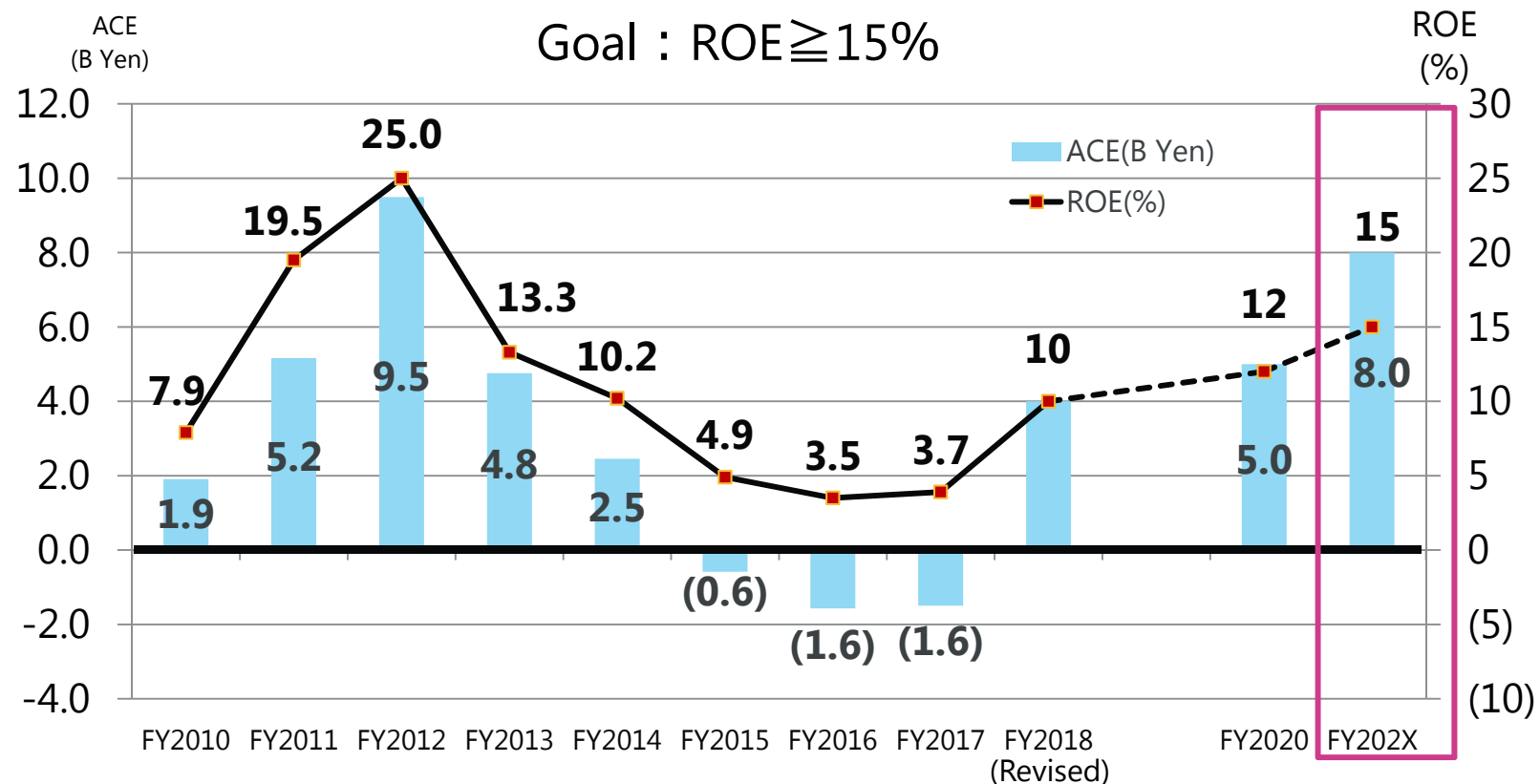


## IV-1-1. GLP2020 : Financial strategy

### 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

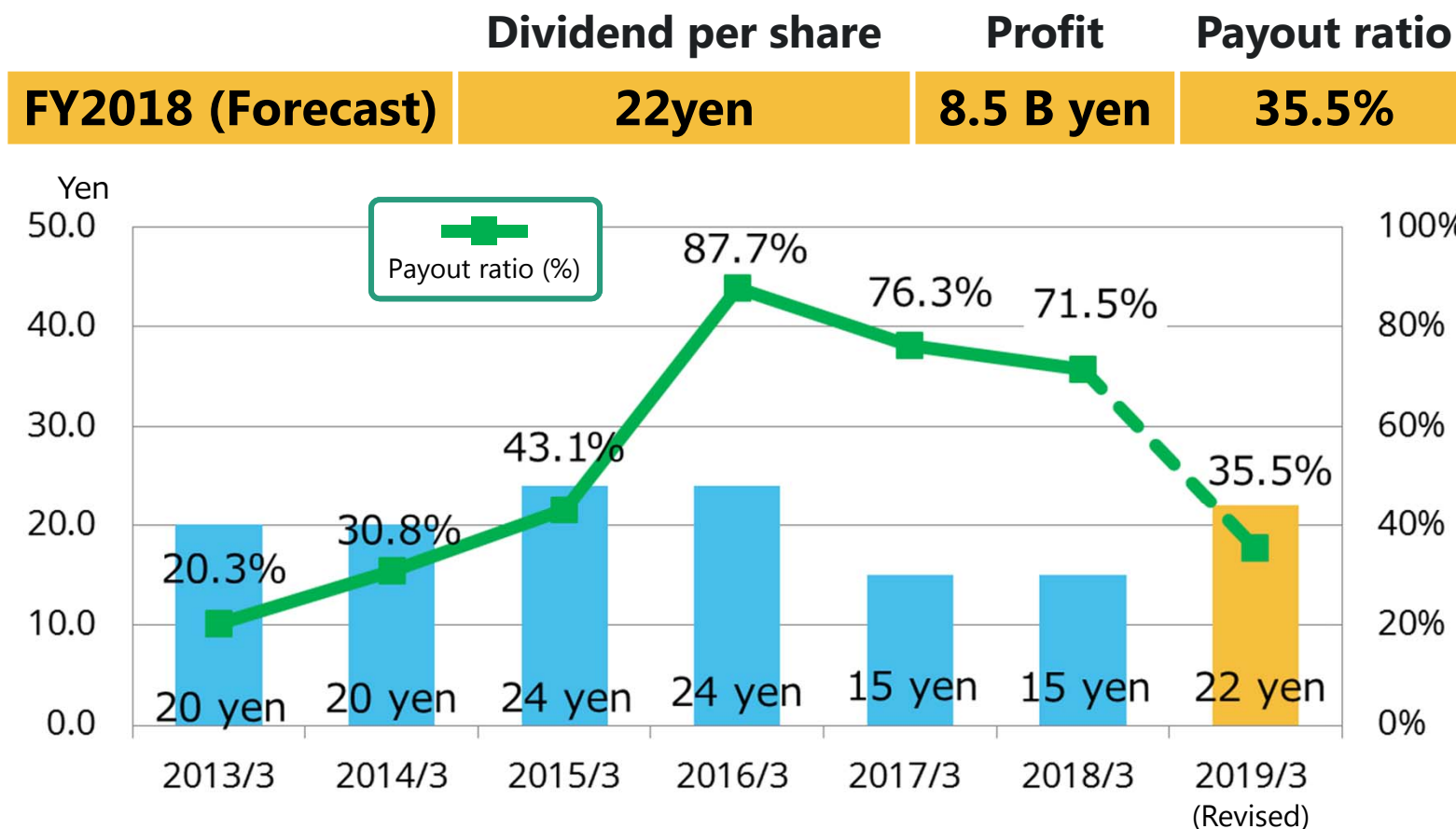
1. Take the basic approach of raising dividends on equity (DOE) in accordance with the increase in consolidated profits for the fiscal year
2. Aim at a consolidated dividend payout ratio of 30 percent or more

## IV-2-1. Dividend forecast

Annual Dividend  
**Increase  
in dividend**

**17 yen → 22 yen**

(Interim dividend 8.5 yen, Year-end dividend 13.5 yen)





## 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



**Put into place a safe and secure infrastructure which leads to the building of a sustainable society and encourages innovation**

**Test and Measurement business**



**Product Quality Assurance business**



**Information and Communications**



**Devices**



### Major Issues in 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.

Respect for human rights and diversity / Human resource development / Occupational health and safety / SCM that give due regard to human rights



#### Promoting Global Environmental Protection

Contributing to the creation of a society with sustainable consumption and sustainable corporate production practices. Reduction in CO2 emissions volume (energy usage volume) and water usage volume/developing and manufacturing of high-quality and environmentally friendly products/Supply chain management that lowers environmental burden



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

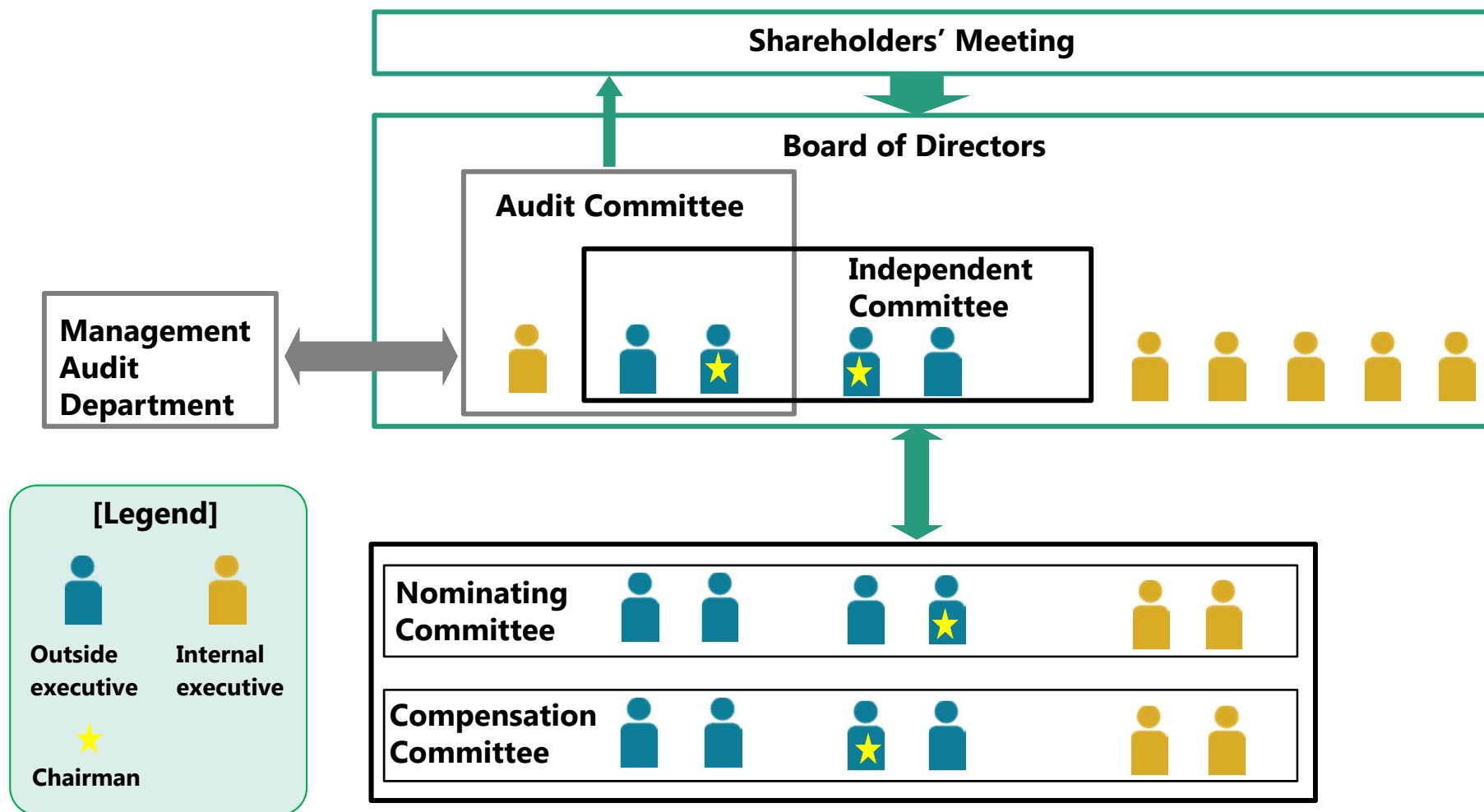
Contributing to the creation of shared value with collaboration among all stakeholders

Providing information to and to communicating with stakeholders/Establishing compliance as a part of our mind-set/ Promoting risk Management





## IV-4. Corporate Governance System

For improving competitiveness and continuously enhancing corporate value



## **V. Financial Results for the 3rd quarter of the Fiscal Year ending March 31, 2019**

## V -1. Overview of operations by business segment

Segment		FY2018 3Q (April to December, 2018)
 <b>T&amp;M</b> : Concrete roadmap for 5G commercialization		
Mobile	LTE-Advanced	Trend toward focusing investments on LTE-Advanced Pro
	5G	Development demand materialized for chipsets and devices
Network Infrastructure		Capital investment within US market was strong
Asia	Commercialization testing seen in China 5G (Sub6GHz)	
Americas	Initial 5G development demand grew steadily	
 <b>PQA</b> : Continued 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 -2. Consolidated performance - Financial results -



Year-on-year growth in revenue and profit

Unit: Billion Yen

International Financial Reporting Standards (IFRS)	3Q FY2017 (Apr. to Dec.)	3Q FY2018 (Apr. to Dec.)	YoY	YoY (%)
Order Intake	64.2	73.9	9.7	15%
Revenue	62.3	71.1	8.8	14%
Operating profit (loss)	2.7	7.7	5.0	189%
Profit (loss) before tax	2.6	7.9	5.3	198%
Profit (loss)	1.5	6.3	4.8	326%
Comprehensive income	3.0	6.5	3.5	118%

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

## V -3. Consolidated performance - Results by business segment -

 T&M: Increase in revenue and profit through investment in initial development for 5G

Unit: Billion Yen

International Financial Reporting Standards (IFRS)		3Q FY2017 (Apr. to Dec.)	3Q FY2018 (Apr. to Dec.)	YoY	YoY (%)
T&M	Revenue	40.1	48.6	8.5	21%
	Op. profit (loss)	0.9	6.5	5.6	631%
	Adjusted operating profit (loss)	1.2 *	6.5	5.3	453%
PQA	Revenue	16.1	16.6	0.5	3%
	Op. profit (loss)	1.3	1.0	(0.3)	-23%
Others	Revenue	6.0	5.9	(0.1)	-2%
	Op. profit (loss)	0.9	0.7	(0.2)	-19%
Adjustment	Op. profit (loss)	(0.4)	(0.6)	(0.2)	-
Total	Revenue	62.3	71.1	8.8	14%
	Op. profit (loss)	2.7	7.7	5.0	189%

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.

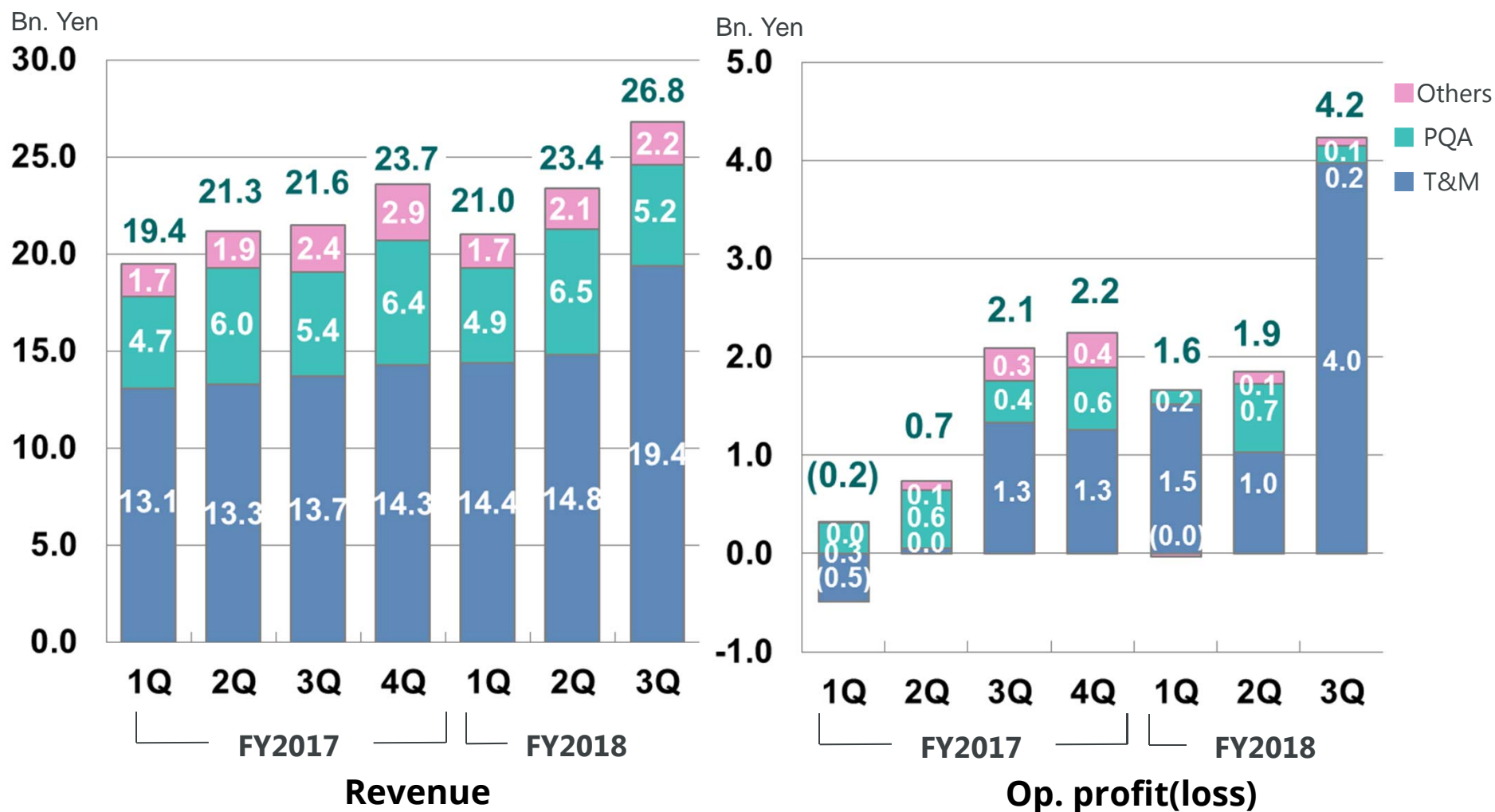
Note3 : Way to allot headquarter administrative expenses to each business segment changed from the year ending March 31, 2019 and figures of operating profit for the year ended March 31, 2018 are restated.

\*Adjusted operating profit for T&M is the amount after deducting 0.3 billion yen in restructuring expenses in the U.S.

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

## V-4. Consolidated performance - Revenue and Op. profit by quarters -

➡ 3Q(Oct.-Dec.) Operating margin : Consolidated 16%, T&M 20%, PQA 4%



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

Note2 : "Adjustment" is included in segment "Others" within the Op. profit(loss).

## V -5. Transition of Order intake

➡ T&M : 34% growth year on year

➡ PQA : Same level as the previous year

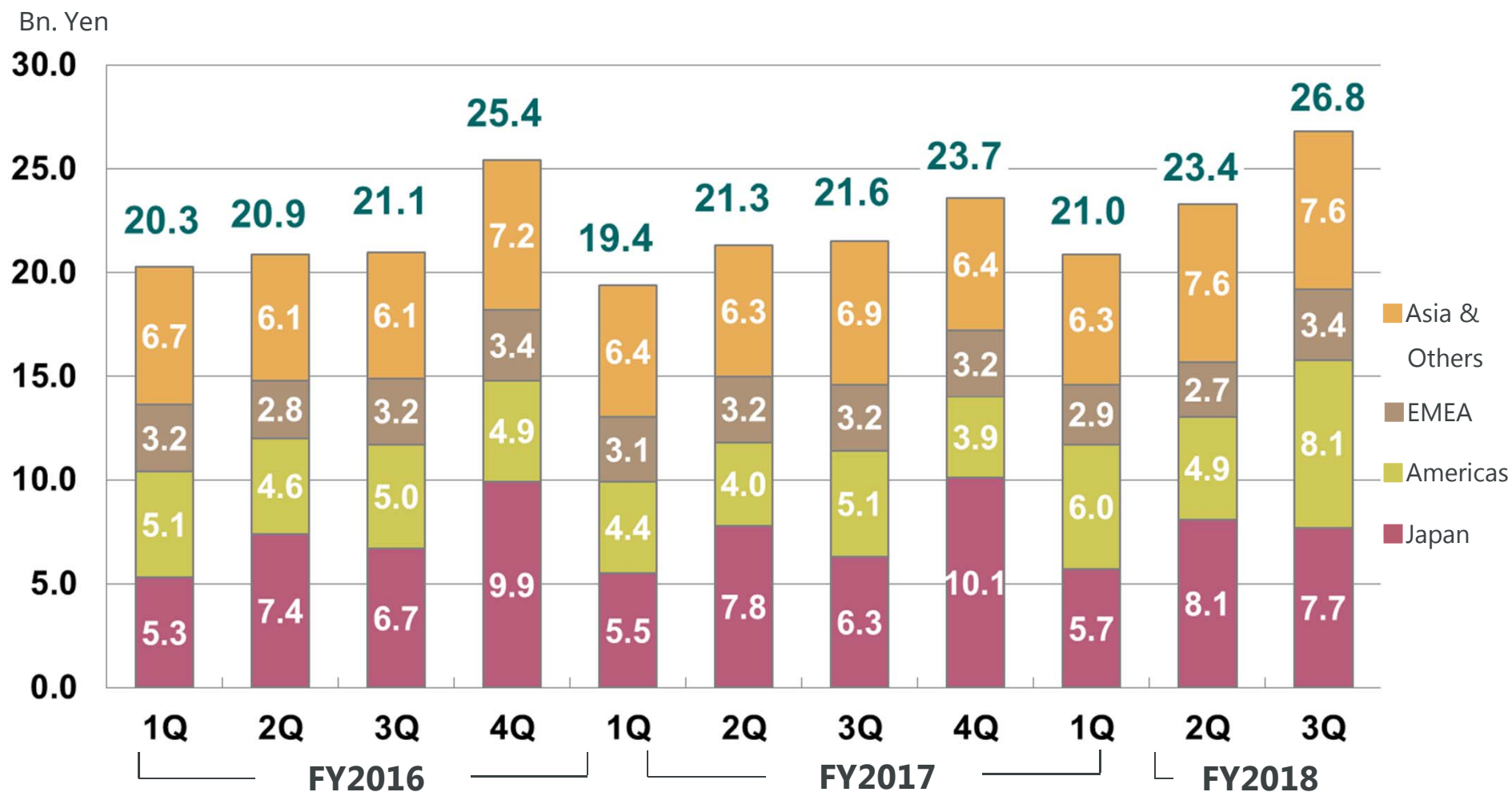
Bn. Yen



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

## V -6. Transition of Revenue by region

➡ Increased revenue from investment in initial development for 5G



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

# V -7. Cash Flow

 **Operating cash flow margin ratio was 13.2%**

## FY2018 3Q(9 months)

Operating CF : 9.4 Bn. Yen  
Investing CF : (1.1) Bn. Yen  
Financing CF : (1.7) Bn. Yen

## Free Cash Flow

Op. CF + Inv. CF : 8.3 Bn. Yen

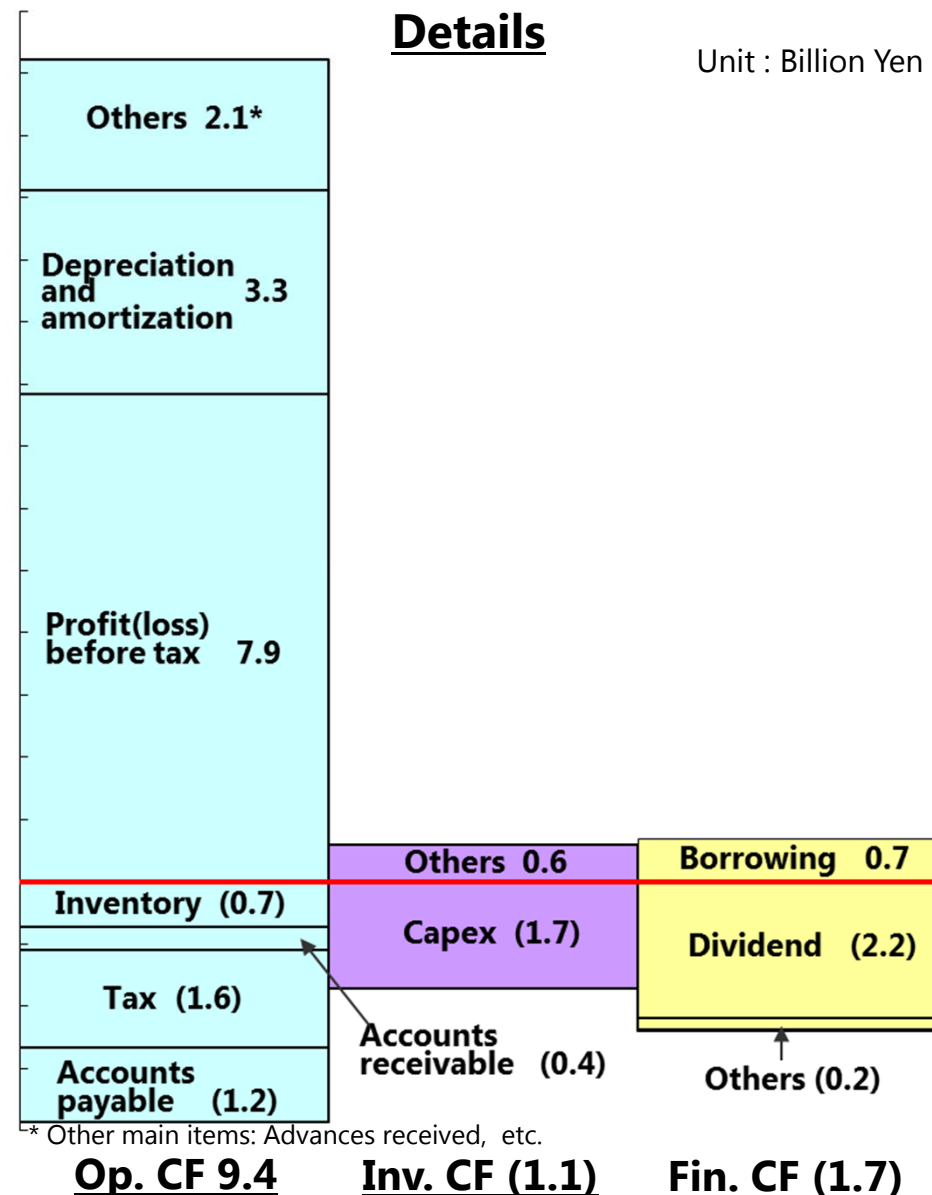
## Cash at the end of period

42.1 Bn. Yen

## Interest-bearing debt.

16.6 Bn. Yen

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





## V -8. Forecast for full year of FY2018 (Consolidated)

 Upward revision in revenue and profit forecast for T&M

Unit: Billion Yen

International Financial Reporting Standards (IFRS)			FY2017	FY2018				
			Actual	Full Year			YoY	YoY(%)
				Previous Forecast (as of Apr. 26 2018)	Previous Forecast (as of Oct. 31 2018)	Revised Forecast		
Revenue			86.0	92.0	92.0	98.0	12.0	14%
Operating profit (loss)			4.9	6.6	7.0	11.0	6.1	124%
Profit (loss) before tax			4.6	6.6	7.0	11.0	6.4	139%
Profit (loss)			2.9	5.0	5.5	8.5	5.6	193%
	T&M	Revenue	54.4	60.0	60.0	66.0	11.6	21%
		Op. profit (loss)	2.1	3.5	5.0	9.0	6.9	319%
	PQA	Revenue	22.5	23.5	23.5	23.5	1.0	4%
		Op. profit (loss)	2.0	2.0	2.0	2.0	0.0	2%
	Others	Revenue	9.0	8.5	8.5	8.5	(0.5)	-5%
		Op. profit (loss)	1.5	1.1	0.7	0.7	(0.8)	-52%
	Adjustment	Op. profit (loss)	(0.7)			(0.7)	(0.7)	0.0

Note 1: Numbers are rounded off to the first decimal place in each column.

Note 2: "Others" and "Adjustments" in this segment information are displayed together as "Others" in the previous forecast (announced on April 26, 2018).

Reference : Exchange rate : FY2017 (Actual) 1USD=111 yen, 1EURO=130 yen  
FY2018 (Initially Forecast) 1USD=105 yen, 1EURO=125 yen  
FY2018 2H ( Forecast ) 1USD=105 yen, 1EURO=125 yen



Anritsu  
envision: ensure

