

ZENRIN

Securities Code: 9474

Briefing on Results for First 2 Quarters of Fiscal 2018 (Year Ending March 31, 2018)

November 14, 2017

ZENRIN Co., Ltd.
Maps to the Future

President and CEO

Zenshi Takayama

Executive Vice President

Junya Amita

Executive Officer, and
Head of Corporate Management Division

Masami Matsuo

1. Overview of Results for First 2 Quarters of Fiscal 2018
2. Earnings Forecast for Fiscal 2018
3. Business Overview
4. Appendix

Note: This document contains forward-looking statements based on assumptions, forecasts and plans in light of information available to ZENRIN Co., Ltd. as of the preparation date of this document. Actual performance may vary significantly from the forecast figures due to various risks and uncertainties owing to global economic trends, market demand, status of competition, exchange fluctuations and other factors.

The information that appears in this document rounds down fractions to the nearest specified unit and rounds off decimals in the percentage of change to the first decimal place.

In addition, cases where the percentage of change exceeds 1000% and cases where one or both of the items of comparison are negative are shown as “—.”

1. Overview of Results for First 2 Quarters of Fiscal 2018

- 1) Overview of Results
- 2) Causes for Change in Operating Income
- 3) Income Changes in Net Sales, Income and Profit
- 4) Net Sales by Business under Medium- to Long-Term Business Plan ZGP2020
- 5) Segment Information
- 6) Changes in Cash Flows

1-1) Overview of Results

Key Points of Results for First 2 Quarters of Fiscal 2018

Compared to First 2 Quarters of Fiscal 2017 <increase in sales and income>

- Robust sales related to GIS, in addition to the strong sales from data for Japanese in-car navigation systems.
- Sales increased for 3 consecutive periods. Profit improved at each level from losses in the previous term.

Compared to Earnings Forecast < increase in sales and income >

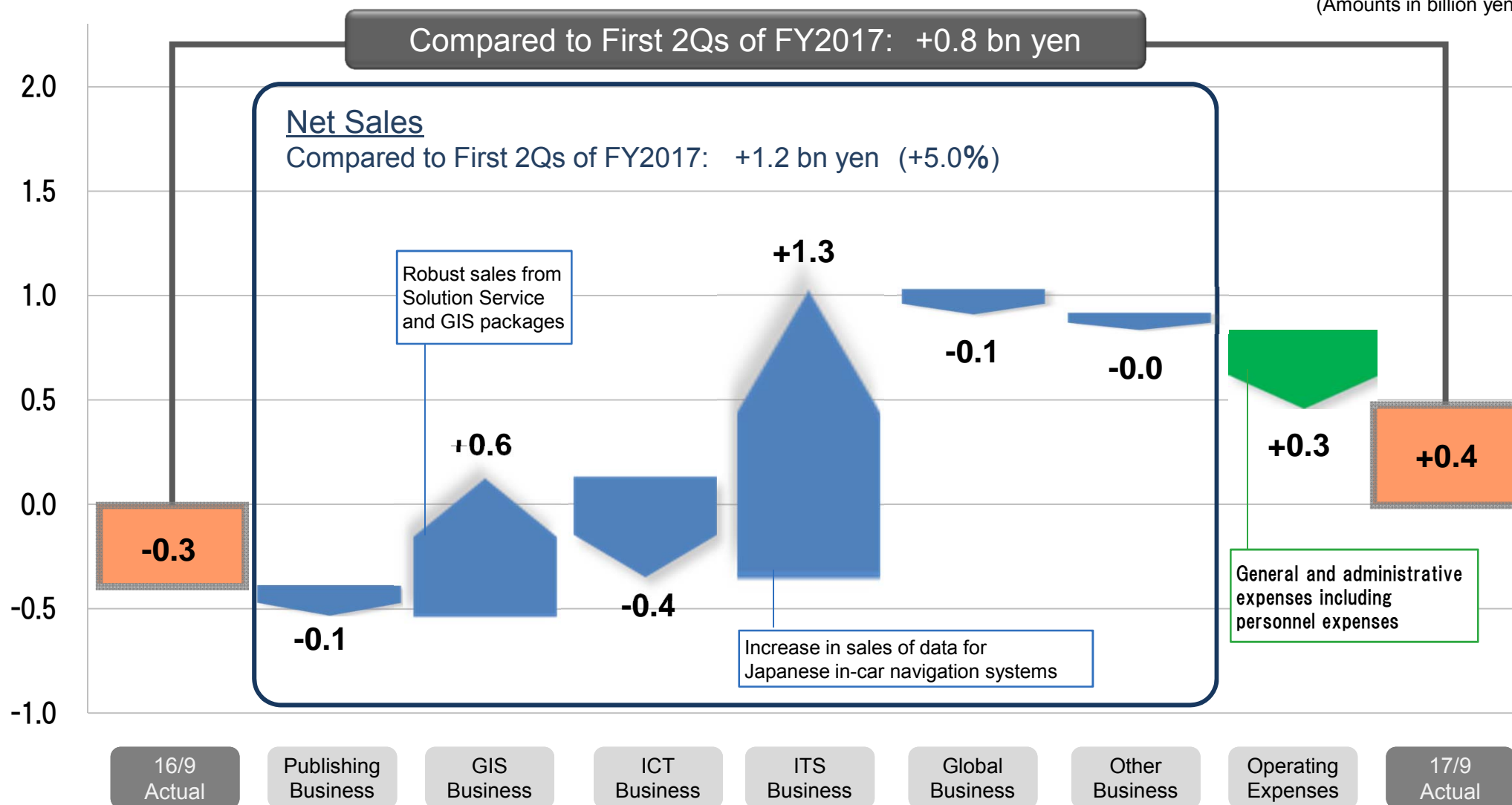
- General and administrative expenses including personnel expenses increased mainly due to performance-linked bonuses were recorded for the first half of this term as performance improved. However, profits were secured due to revenue increase and other factors.

(Amounts in million yen)

	First 2Qs of FY2017 Actual	First 2Qs of FY2018 Earnings Forecast (May 8)	First 2Qs of FY2018 Revised Forecast (Oct. 20)	First 2Qs of FY2018 Actual	Compared to First 2Qs of FY2017	% of Change	Compared to Earnings Forecast (May 8)	% of Change	Compared to Revised Forecast (Oct. 20)	% of Change
Net Sales	24,783	25,000	26,000	26,016	1,233	5.0	1,016	4.1	16	0.1
Operating Expenses	25,161	25,000	25,530	25,546	384	1.5	546	2.2	16	0.1
Operating Income	-378	0	470	470	849	—	470	—	0	0.1
Operating Margin	-1.5%	—	1.8%	1.8%	3.3pt		1.8pt		0.0pt	
Ordinary Income	-207	0	720	725	932	—	725	—	5	0.7
Profit Attributable to Owners of Parent	-387	0	210	213	601	—	213	—	3	1.6

*No substantial change from the revised earnings forecast figures announced on October 20.

1-2) Causes for Change in Operating Income

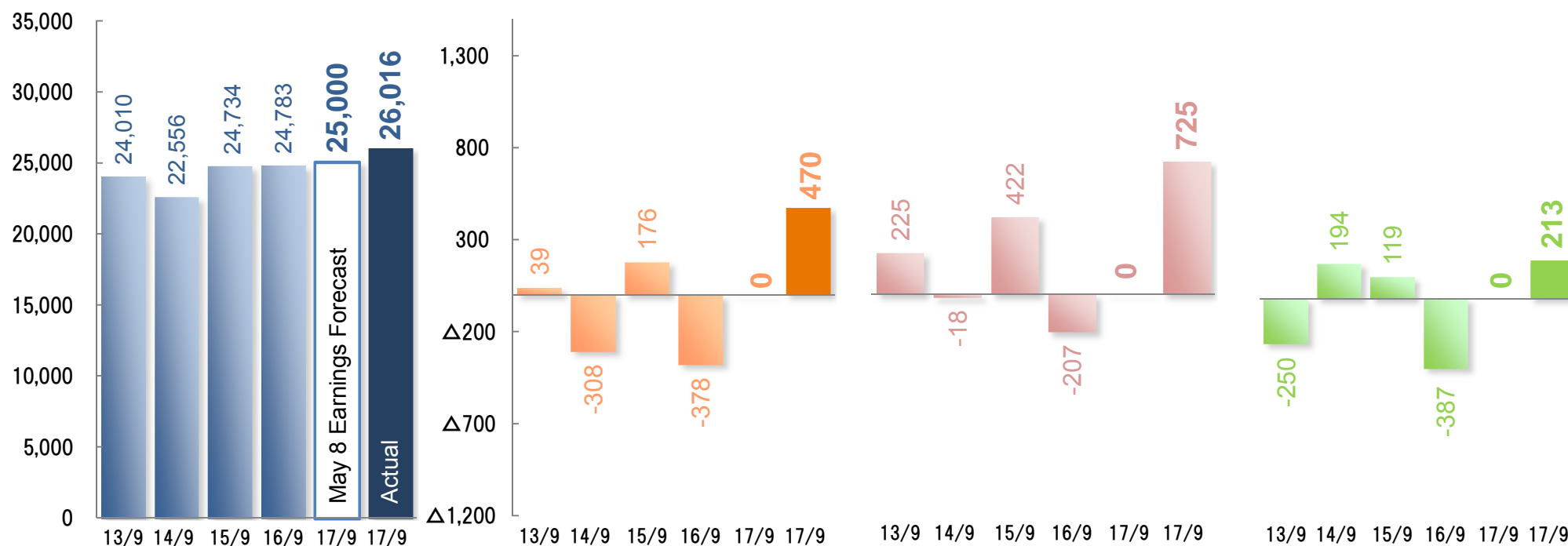


1-3) Changes in Net Sales, Income and Profit

Briefing on Results for First 2Qs of FY2018

(Amounts in million yen)

	Net Sales	Operating Income	Ordinary Income	Profit Attributable to Owners of Parent
Compared to First 2Qs of FY2017	Up 1,233 (+5.0%)	Improved 849 (—)	Improved 932 (—)	Improved 601 (—)
Compared to Earnings Forecast (announced on May 8)	Up 1,016 (+4.1%)	Improved 470 (—)	Improved 725 (—)	Improved 213 (—)

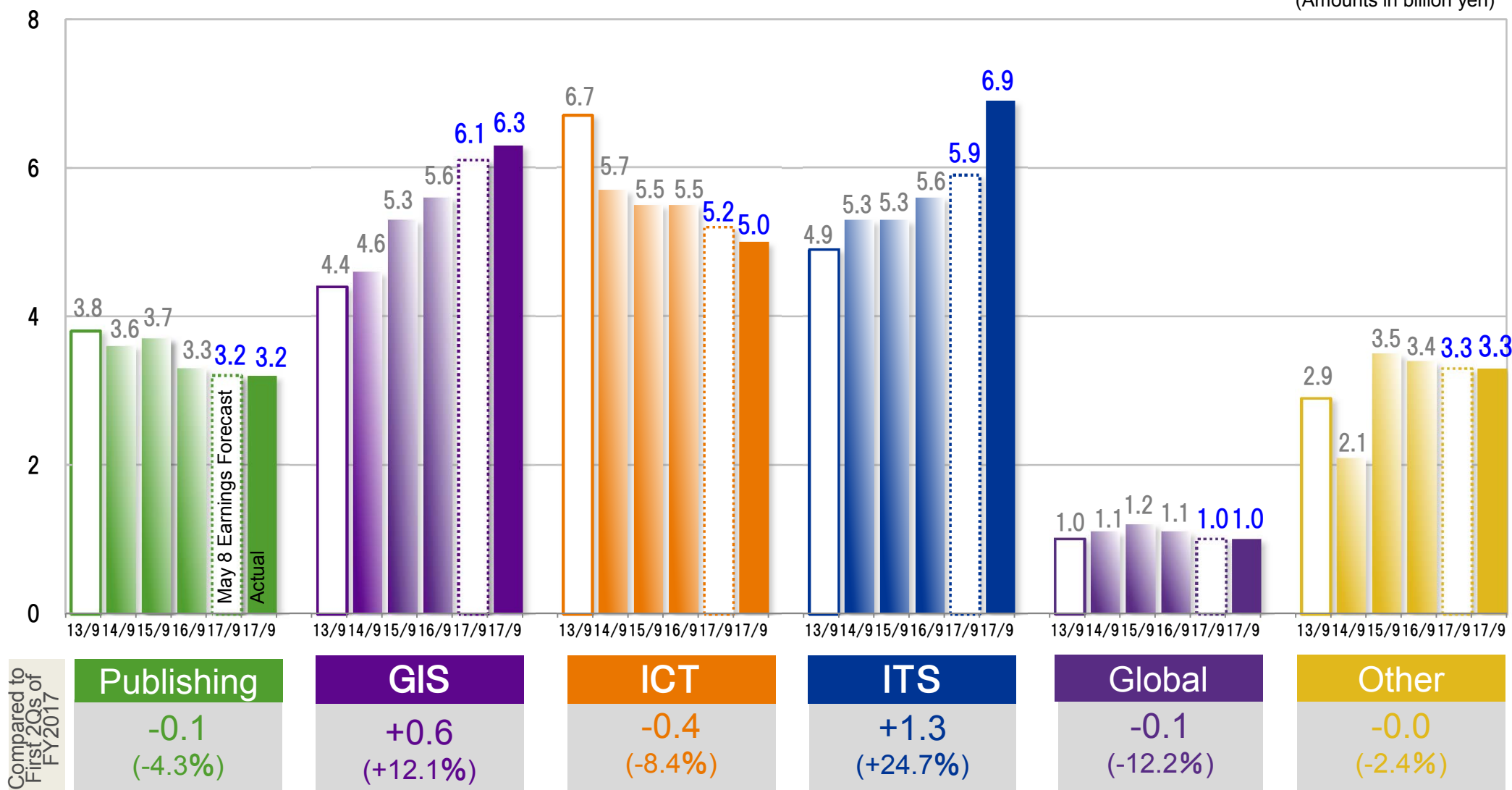


Increase in sales for 3 consecutive periods

Loss in previous period → Profit

*No substantial change from the revised earnings forecast figures announced on October 20.

1-4) Net Sales by Business under ZGP2020



* Net sales for first 2 quarters of fiscal 2014 (period ended September 2013), which are the outlined open bars on the bar graph, are net sales compiled based on the business composition under ZGP2015.

1-5) Segment Information

Sales
Composition

84.3%

1. Map Database Segment

Main Items: Printed residential maps, residential map databases, map data for Japanese and overseas in-car navigation systems, services for smartphones, map data provision, etc. for various media/devices



6.0%

2. General Printing Segment

Main Items: Commercial printing



9.7%

3. Other

Main Items: Purchased products, digital signage, direct mail delivery services, in-ship advertising

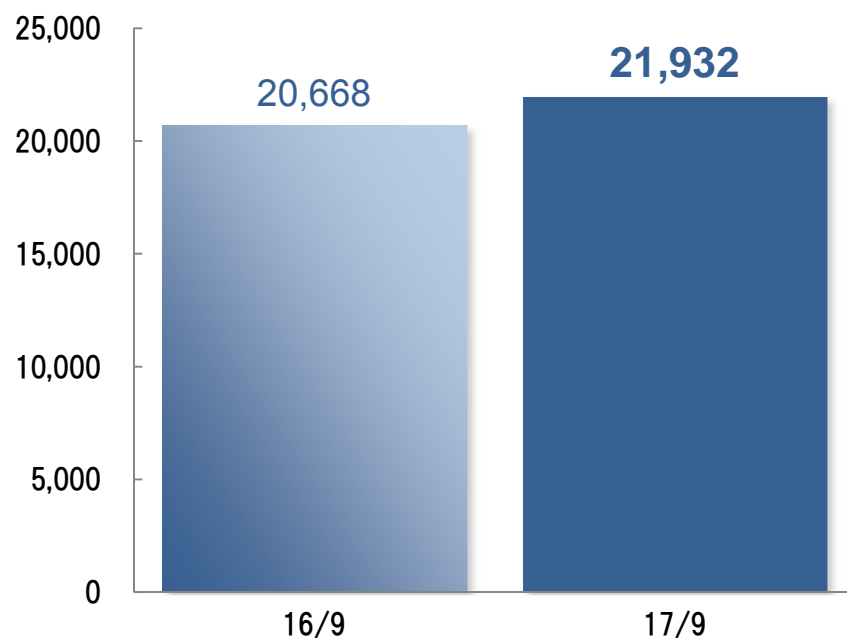


1-5) Map Database Segment

Net Sales

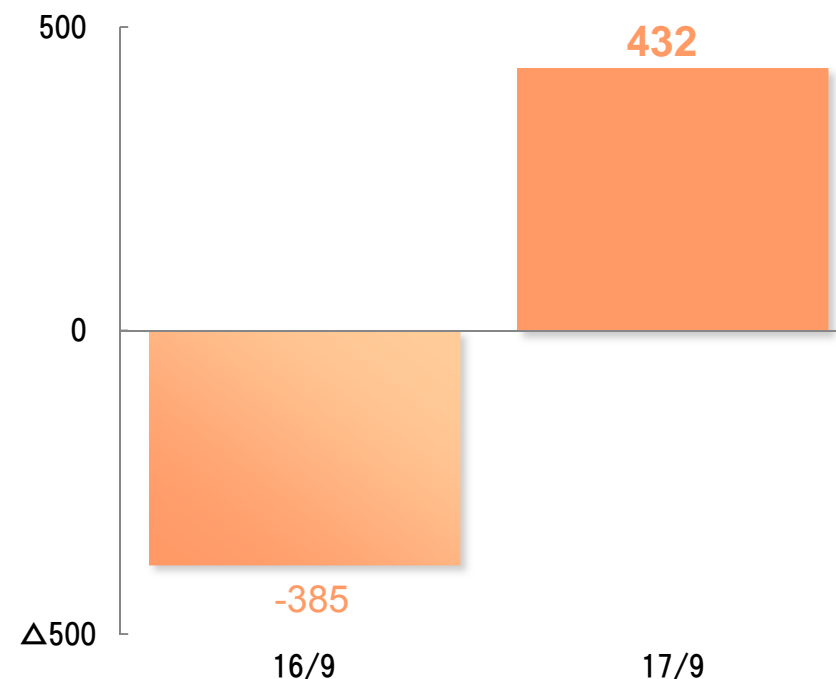
Compared to
First 2Qs of
FY2017

Up 1,263 (+6.1%)



Operating Income

Improved 817 (—)



- Robust sales related to GIS, in addition to the strong sales from data for Japanese in-car navigation systems.
- Despite an increase in general and administrative expenses including personnel expenses, secured profits thanks to an increase in revenues.

1-5) General Printing Segment, and Other

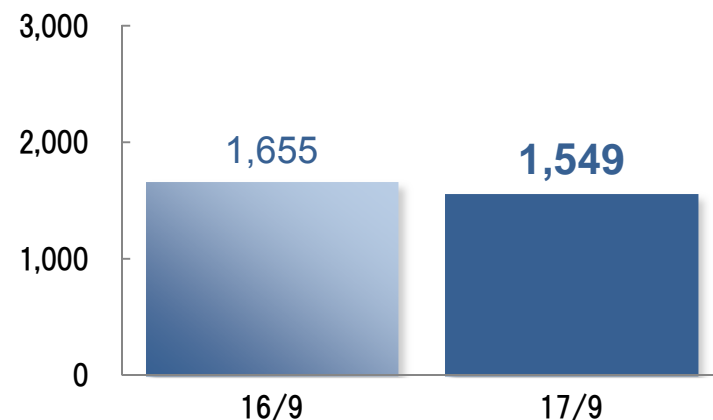
(Amounts in million yen)

General Printing Segment

Net Sales

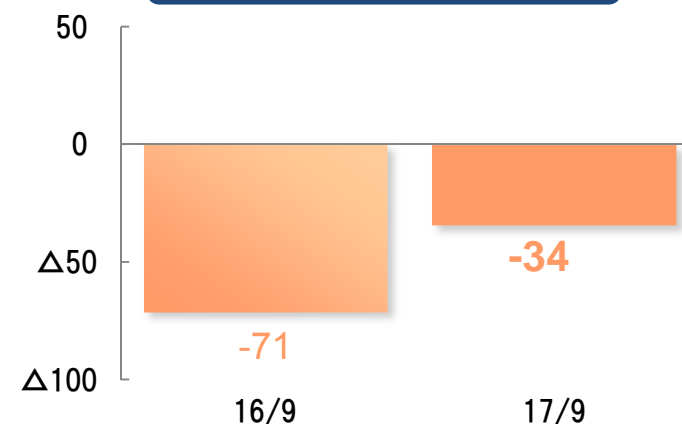
Compared to
First 2Q of
FY2017

Down 106 (-6.4%)



Operating Income

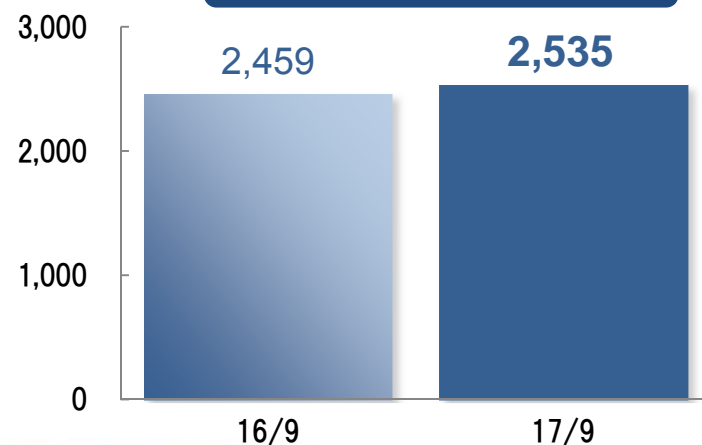
Improved 36 (—)



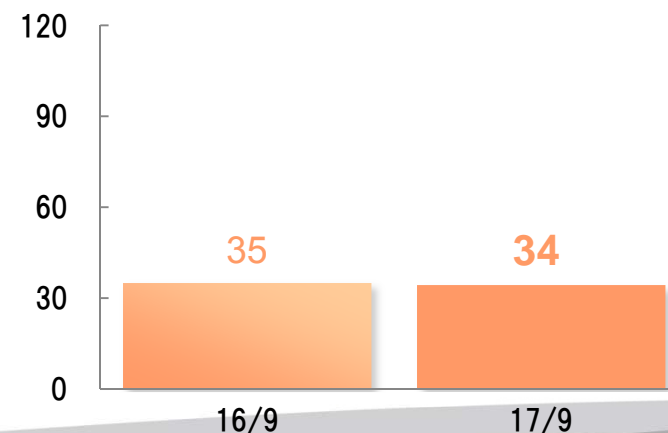
Other

Compared to
First 2Qs of
FY2017

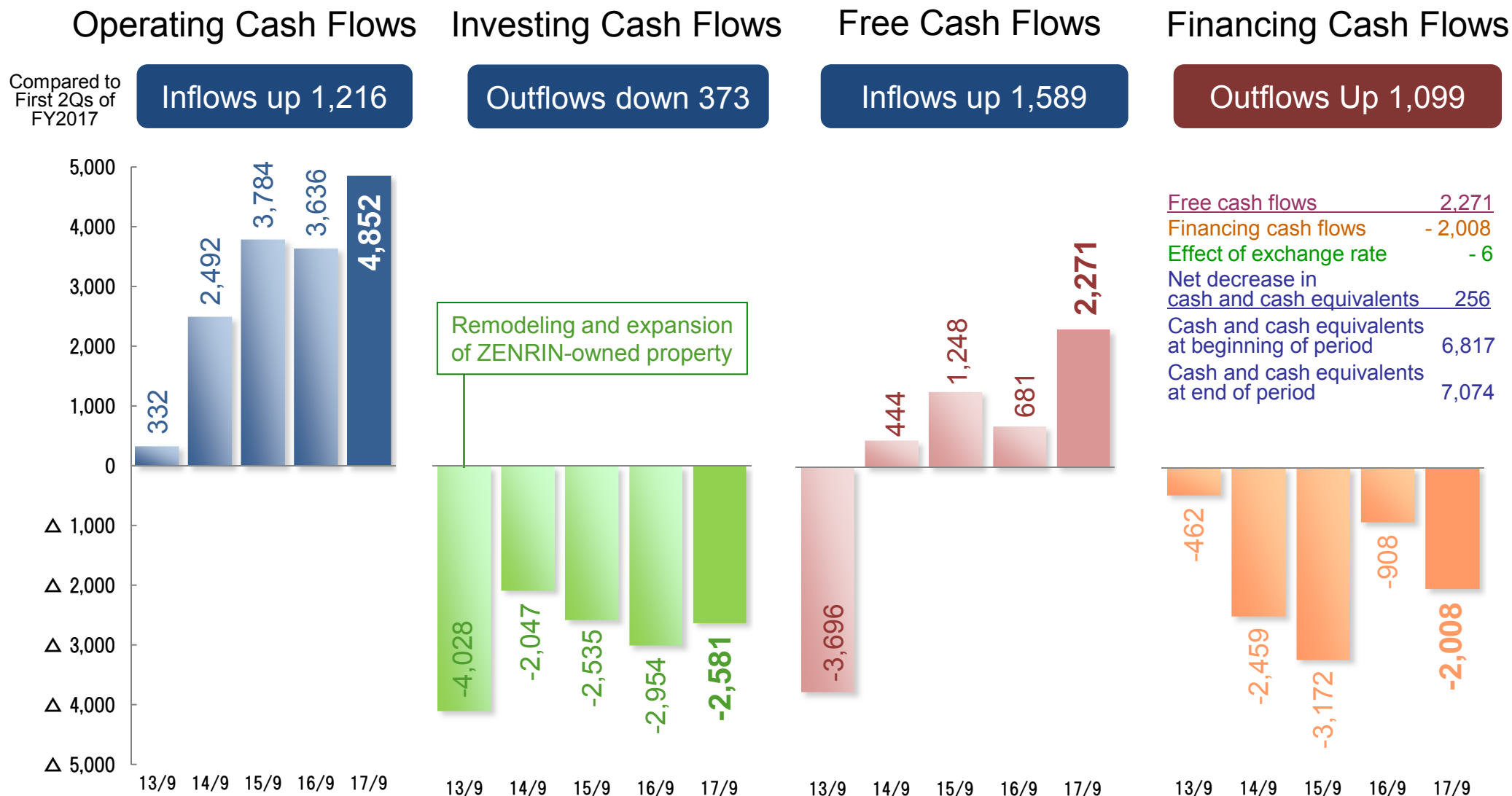
Up 76 (+3.1%)



Down 0 (-2.3%)



1-6) Changes in Cash Flows



2. Earnings Forecast for Fiscal 2018

- 1) Overview of Earnings Forecast for Fiscal 2018
(No change from the figures announced on May 8)
- 2) Dividends

2-1) Overview of Earnings Forecast for Fiscal 2018

Earnings Forecast for Fiscal 2018

The earnings forecast for fiscal 2018 is left unchanged from that announced on May 8, 2017 for now.

Compared to Fiscal 2017 <increase in sales and income>

- Securing of earnings from GIS Business
- Advance preparation of map data and reinforcement of business partnership in such areas as ADAS and drones
- Stable operation of Zenrin Integrated Geospatial System and product development

(Amounts in million yen)

	FY2017 Actual	FY2018 Forecast	Compared to FY2017	% of Change
Net Sales	57,819	60,000	2,180	3.8
Operating Expenses	53,584	55,500	1,915	3.6
Operating Income Operating Margin	4,234 7.3%	4,500 7.5%	265 0.2pt	6.3
Ordinary Income	4,527	4,700	172	3.8
Profit Attributable to Owners of Parent	2,462	2,700	237	9.7

2-2) Dividends

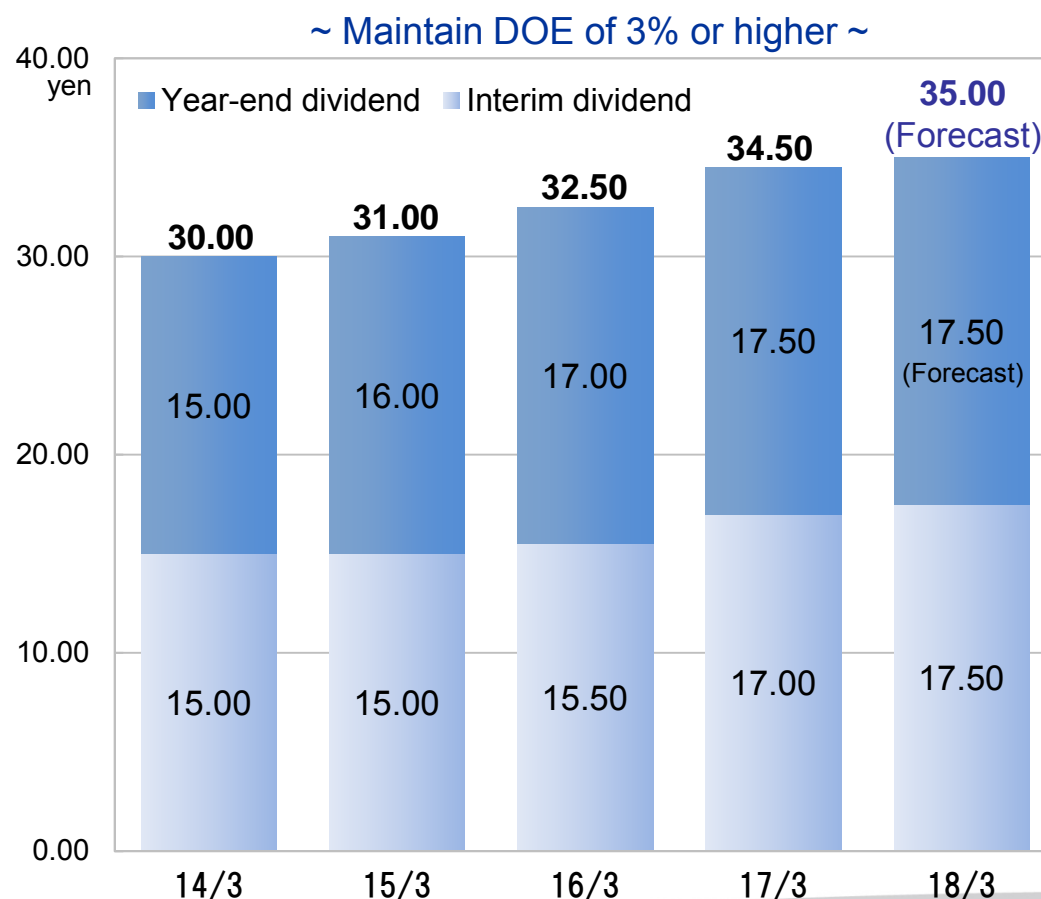
Basic Policy

Return income to shareholders derived from income growth based on the medium- to long-term business plan, while taking into account maintaining an adequate amount of internal reserves

Target dividend on equity (DOE) on a consolidated basis of 3% or higher

FY2018 Dividend (Compared to FY2017)

Interim	17.50 yen (+0.50 yen)
Year-end (Planned)	17.50 yen (\pm 0 yen)
Annual (Planned)	35.00 yen (+0.50 yen)

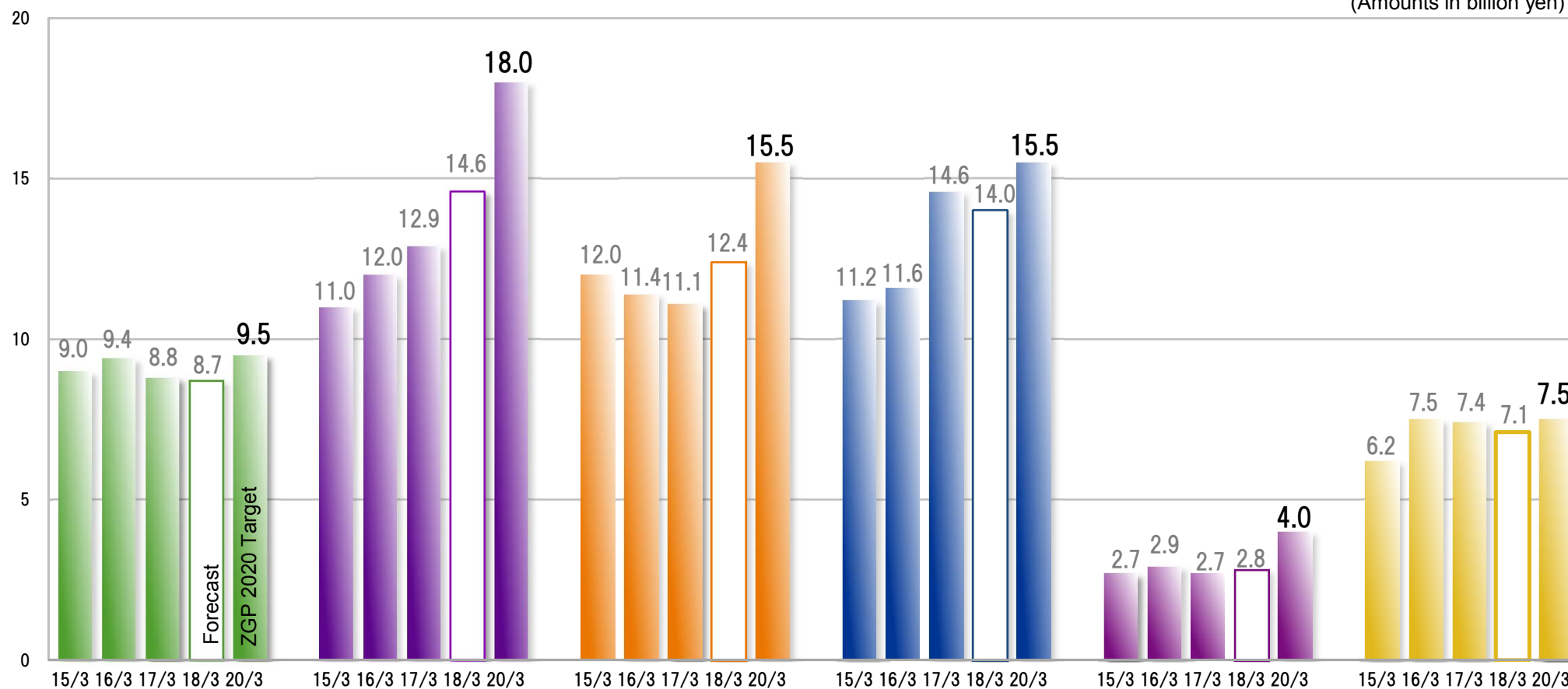


3. Business Overview

- 1) Net Sales by Business under Medium- to Long-Term Business Plan ZGP2020
- 2) ZGP2020 Business Strategy
 - Net sales by Business (Actual/Forecast/ ZGP2020 Targets)
 - Primary Initiatives

3-1) Net Sales by Business under ZGP2020

(Amounts in billion yen)



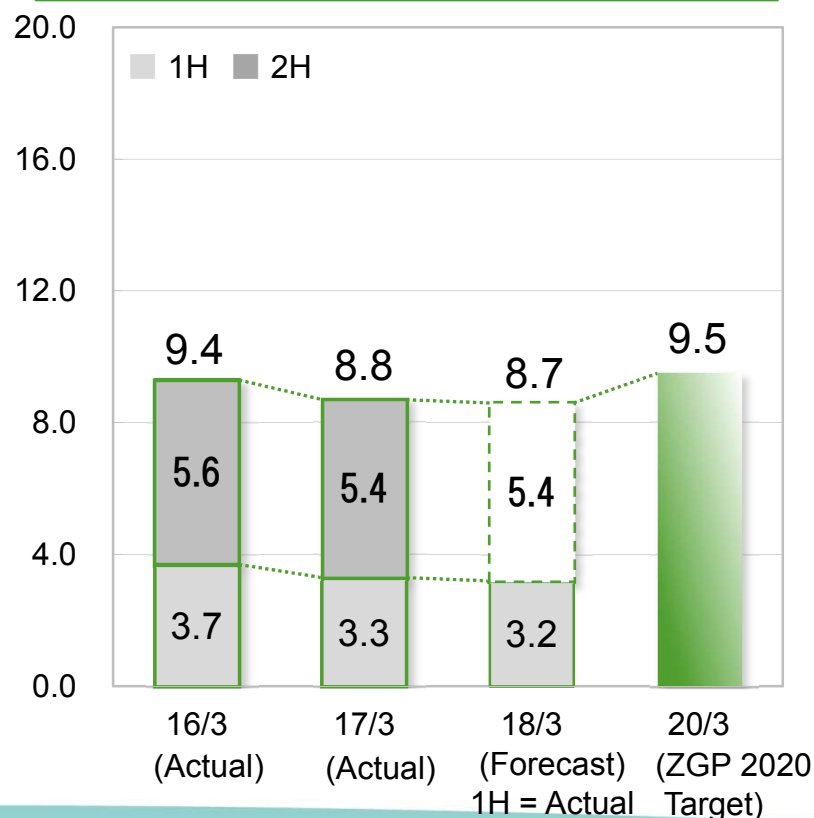
17/3 ↓ 18/3	Publishing	GIS	ICT	ITS	Global	Other
	-0.1 (-1.4%)	+1.7 (+13.3%)	+1.3 (+11.7%)	-0.5 (-3.8%)	+0.1 (+4.4%)	-0.2 (-3.9%)

3-2) ZGP2020 Business Strategy -Publishing Business-

FY2018 Net Sales Forecast
Compared to FY2017: -0.1 bn yen (-1.4%)

<Second Quarter Progress>

Revenue from printed residential maps decreased year-on-year (-7%), which is in line with the plan.



Pursuit of the “solutions” of print media

Revamping of the direct sales model through sales process reform

Expand sales by special-purpose map products for local governments

Expand sales with new products using maps under a new concept

Establish new business domains in “Map Design Business”

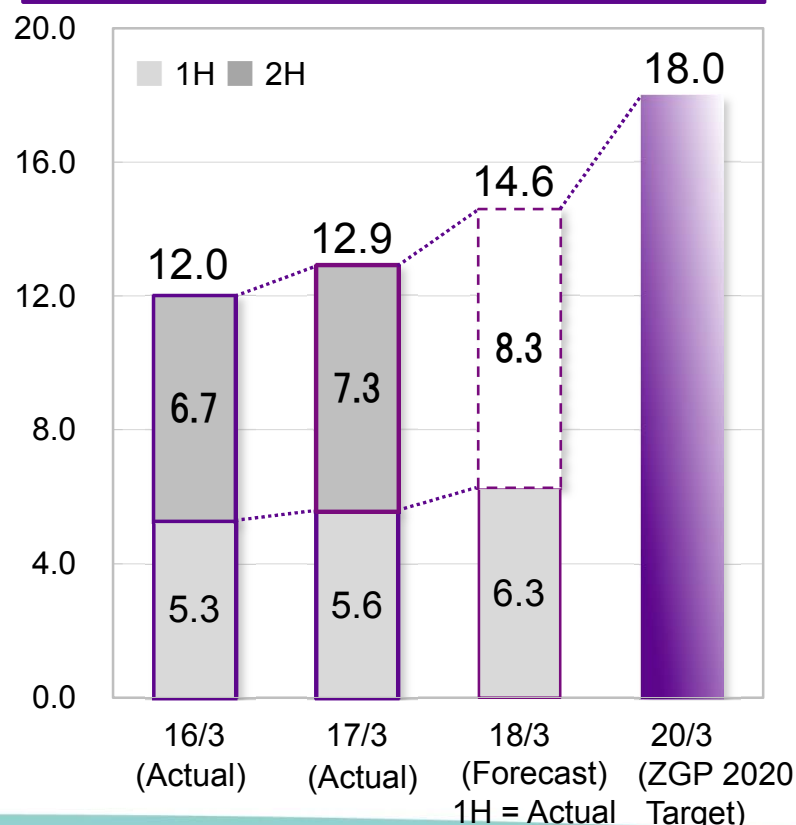
- One after another release of Map Design products for individual users
- Expansion of merchandising promotion products
- Create markets with printed media for tourists
- Generate extra revenue for a limited period with products related to the Olympics and Paralympics

3-2) ZGP2020 Business Strategy —GIS Business—

FY2018 Net Sales Forecast
Compared to FY2017: +1.7 bn yen (+13.3%)

<Second Quarter Progress>

Solution Service Business remained robust
and GIS package contracts increased



Reinforcement of Zenrin GIS brand-specific strategies

Establishment of businesses targeting
the services of local governments

Establishment of new business models

- Expand revenue with sales promotion support business using SNS

Expand revenue with new products and services

- Maintain current sales from the provision of residential map data
- Expand sales by strengthening GIS solutions
- Expand markets by releasing selection products
- Expand markets by releasing package products

3-2) ZGP2020 Business Strategy -GIS Business-

Building of **GIS** brand

* Figures indicate sales for the
FY ending March 2018 (yoy)

National and
local
governments

Large corporations

Small and medium-sized enterprises

Marketing

Operation

Sales

Business processes
in general

Solution

Selection

Packaging

Provision of residential map data to specialized systems

- Finance (collateral valuation, customer management, sales support, etc.)
- Logistics (delivery, tracking, etc.), etc.

12.0 billion yen (+1.2)

Effective use of residential map data and other information

- Construction (property information, 3D city modeling data)
- Real estate brokerage (property management, sale and purchase, vacant houses, vacant land)
- Infrastructure (facility management) etc.

Establishment of businesses targeting the services of local governments

- Fire fighting, police (emergency directive system, etc.)
- Local governments (hazard map, shelters, vacant houses, vacant land, facility management) etc.

LGWAN Application

0.6 billion yen (+0.1)

- Sales promotion, shop opening plan
- Movement and behavior analysis
- Marketing area analysis

Release package (Premium) products

- Added functions and contents of package products

2.0 billion yen (+0.4)

Release package (Standard / Light) products

- Specialized and sector-specific service lineups

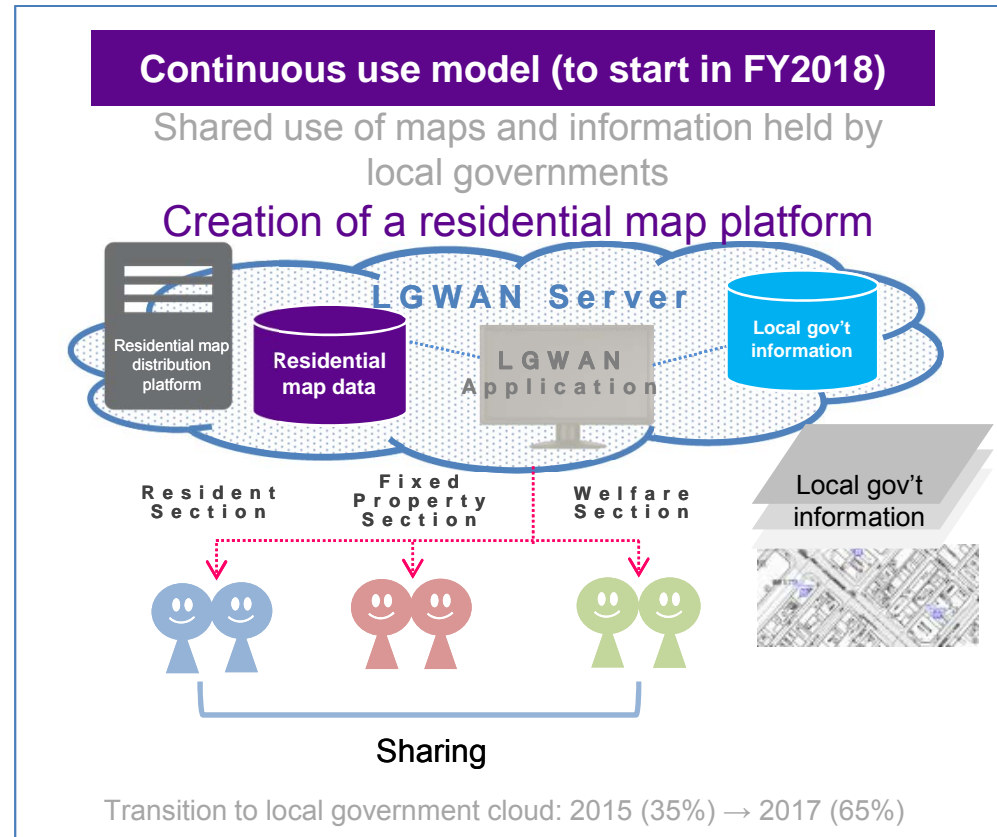
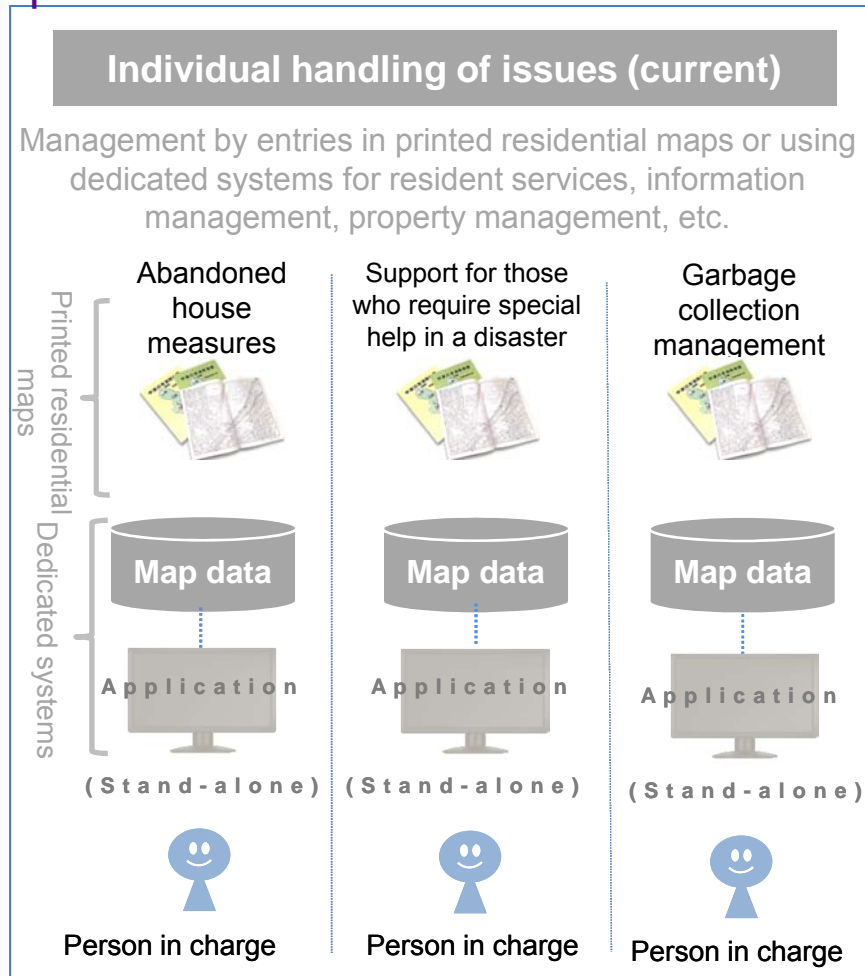


3-2) ZGP2020 Business Strategies – Publishing Business/GIS Business – (Local Government Administrative Services Support)

Briefing on Results for First 2Qs of FY2018

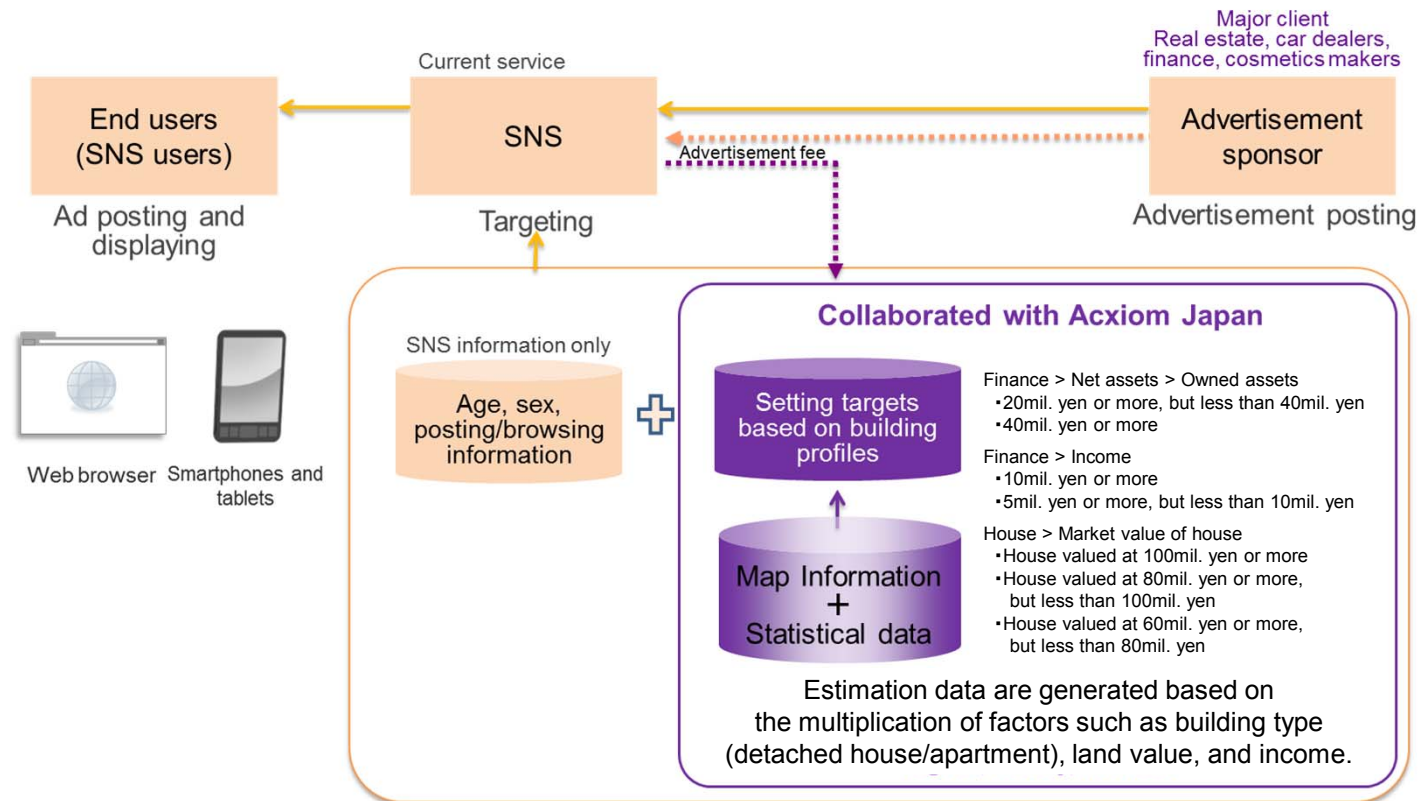
Expansion of local government business through the creation of a residential map platform that accommodates the LGWAN environment

LGWAN: Local Government Wide Area Network



In addition to the use by LGWAN applications, ZENRIN will provide an environment in which residential maps can be used in a printed form or on websites to, for example, provide information (such as hazard map) to residents and print out maps for individual services.

Expansion of the use of data for Internet advertising targeting



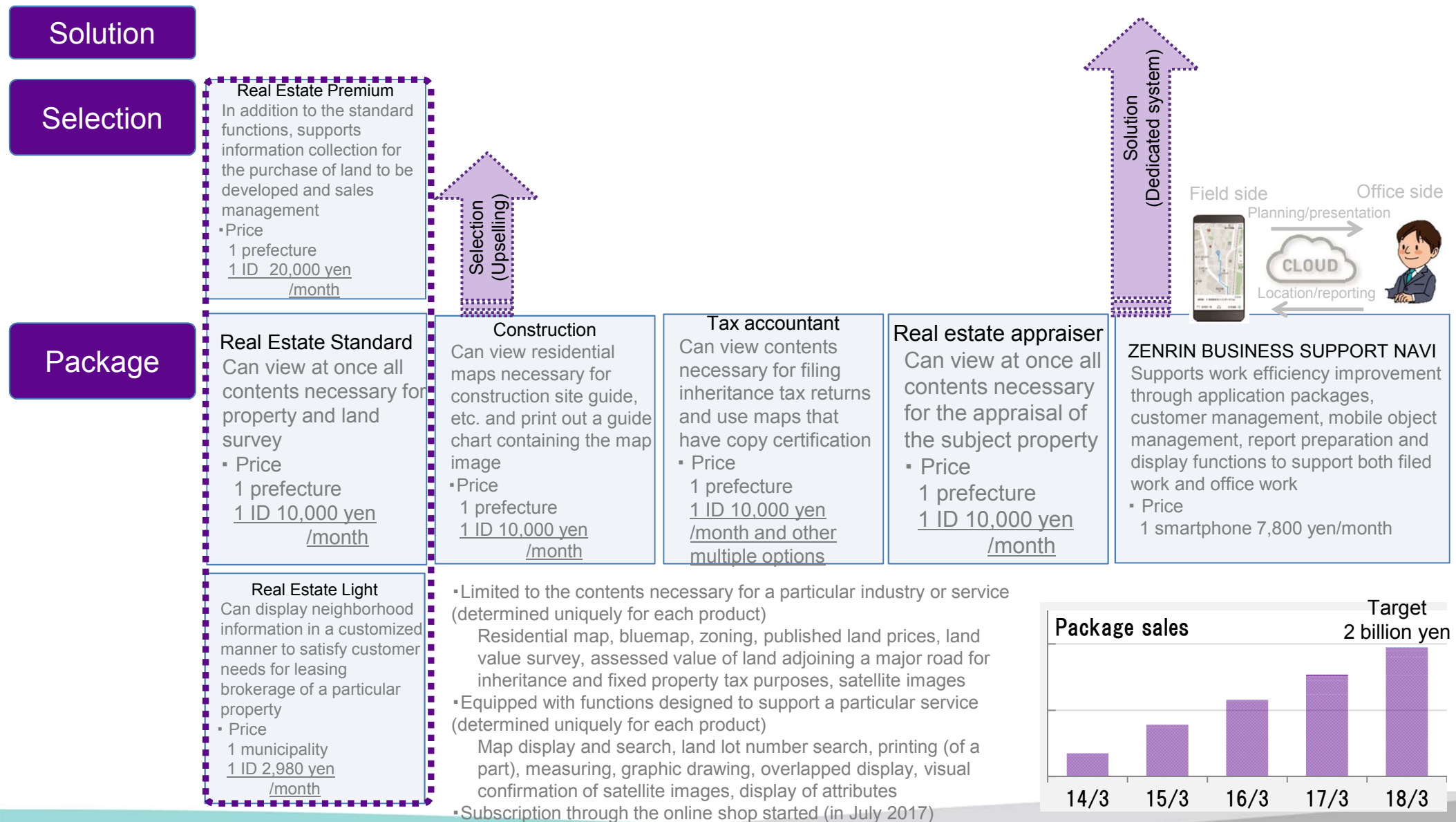
Adoption record

- December 2016: Adopted by Facebook for its partner category
- September 2017: Adopted by a major portal

Additional data to be provided for target setting based on building profile

Provision of new building profile data, such as the age of residential apartments (condominium / rental) and detached houses, is under consideration

3-2) ZGP2020 Business Strategies – GIS Business – (GIS package)

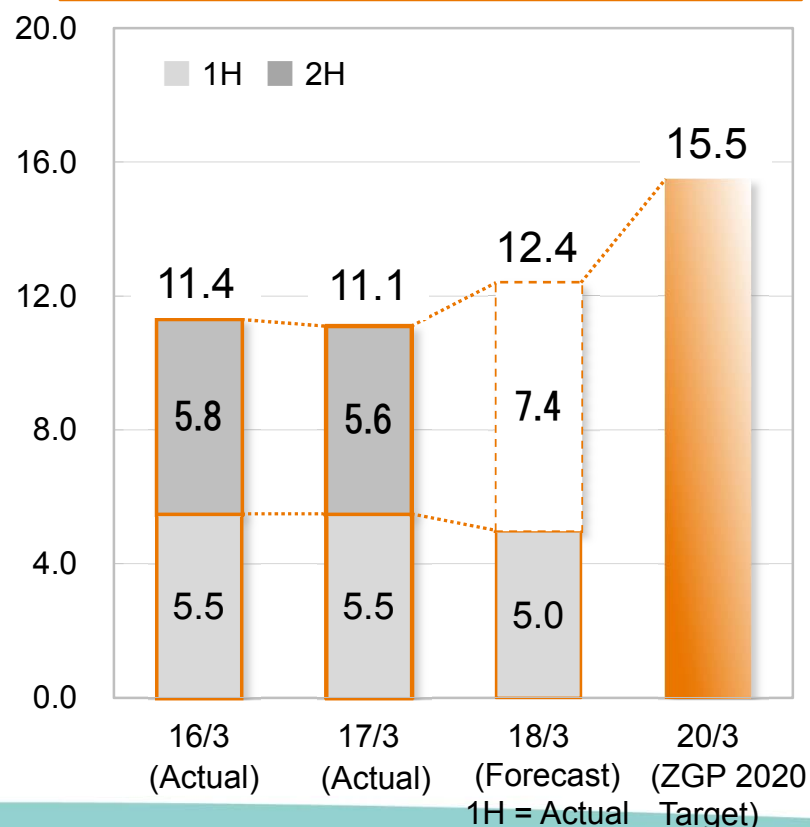


3-2) ZGP2020 Business Strategy –ICT Business–

FY2018 Net Sales Forecast Compared to FY2017: +1.3 bn yen (+11.7%)

<Second Quarter Progress>

- Decrease in the number of fee-paying subscribers to services for smartphones
- The use of our map DB by other companies for their services increased.



From IT media to IoT platforms

Enhancement of map DB utility value through provision of Zenrin Integrated Geospatial contents

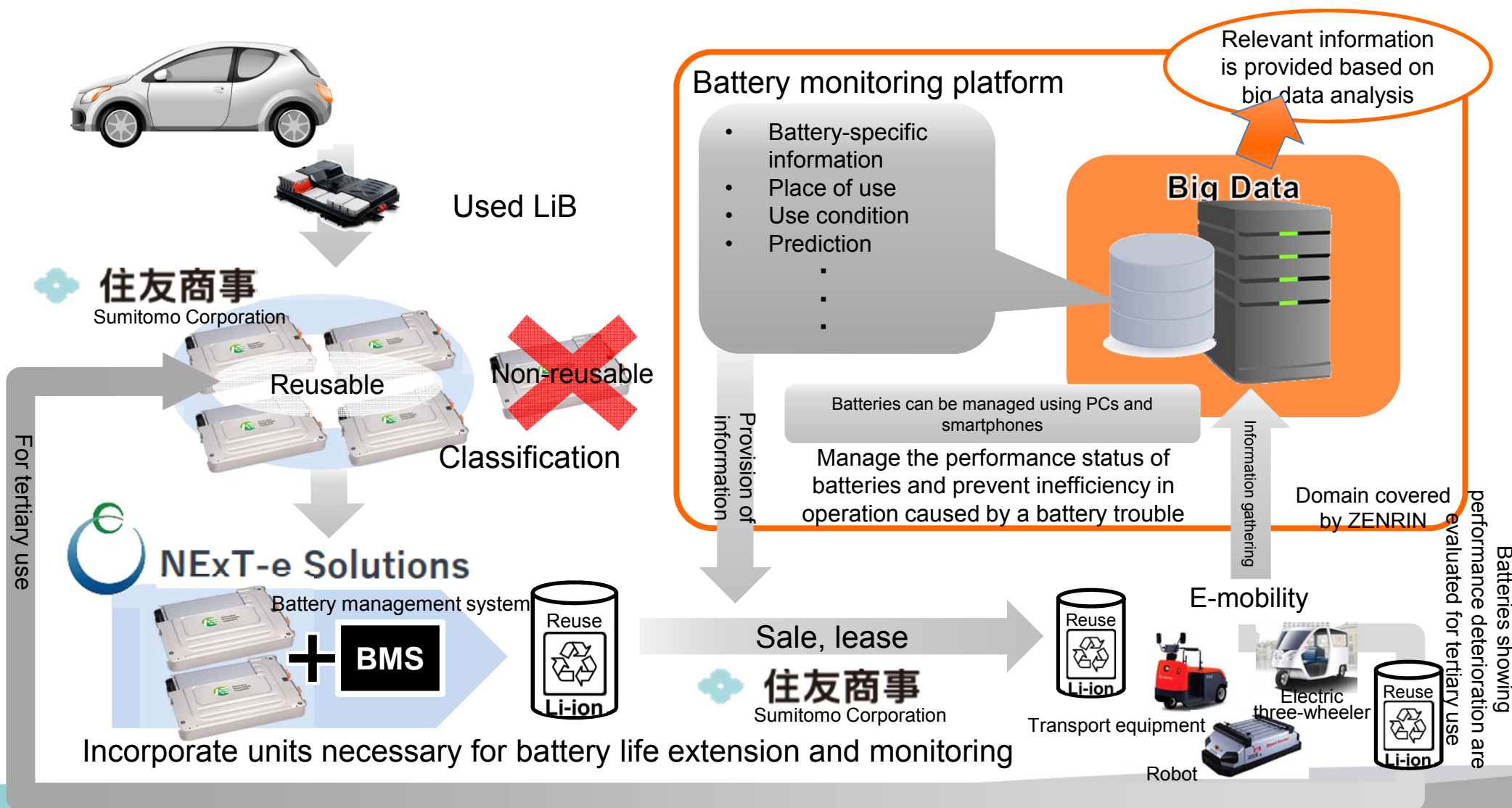
From the business of providing maps to IT media to total solution business

- Create new services with major portals and transport operators
- Expansion of fleet management system by telematics

Enhance revenue from new business domains

- Establish technical and revenue bases in the drone business
- Expand location information business related to digital signage
- Provide solution services using 3D data

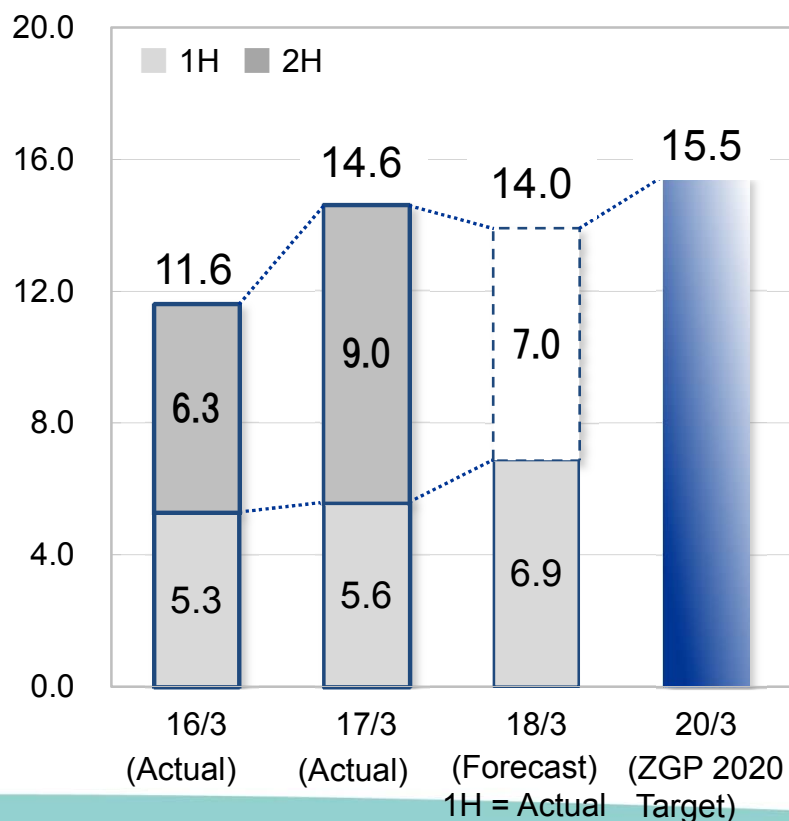
Creation of a platform for monitoring and managing reused lithium ion batteries (reused LIBs)



3-2) ZGP2020 Business Strategy —ITS Business—

FY2018 Net Sales Forecast Compared to FY2017: -0.5 bn yen (-3.8%)

<Second Quarter Progress>
Increase in sales of data for in-car navigation systems / ADAS-related business proceeding as planned.



Development of a map ecosystem in the era of automatic driving

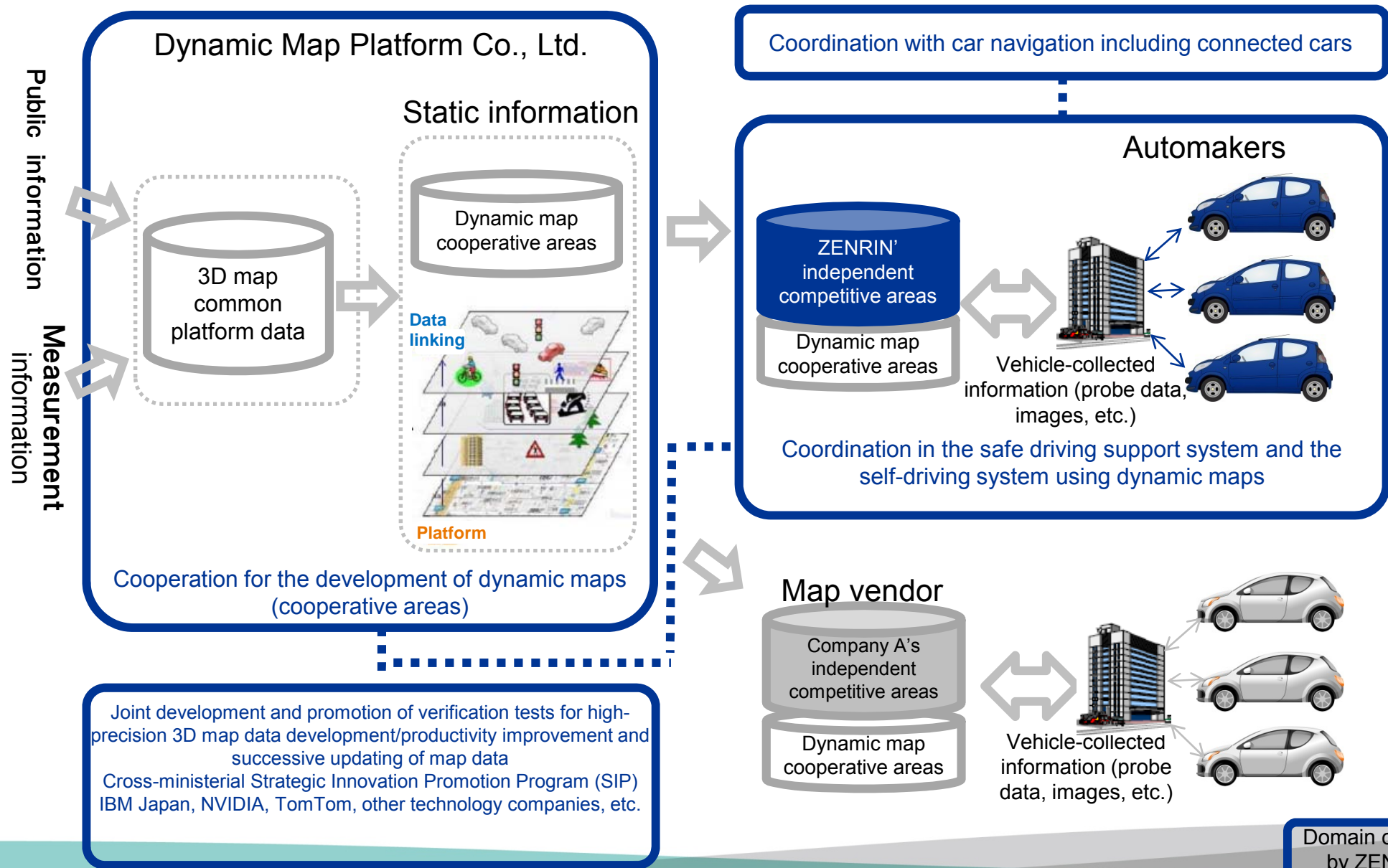
Enhancement of map DB utility value through provision of Zenrin Integrated Geospatial contents

Provision of total solution in the domestic ITS market

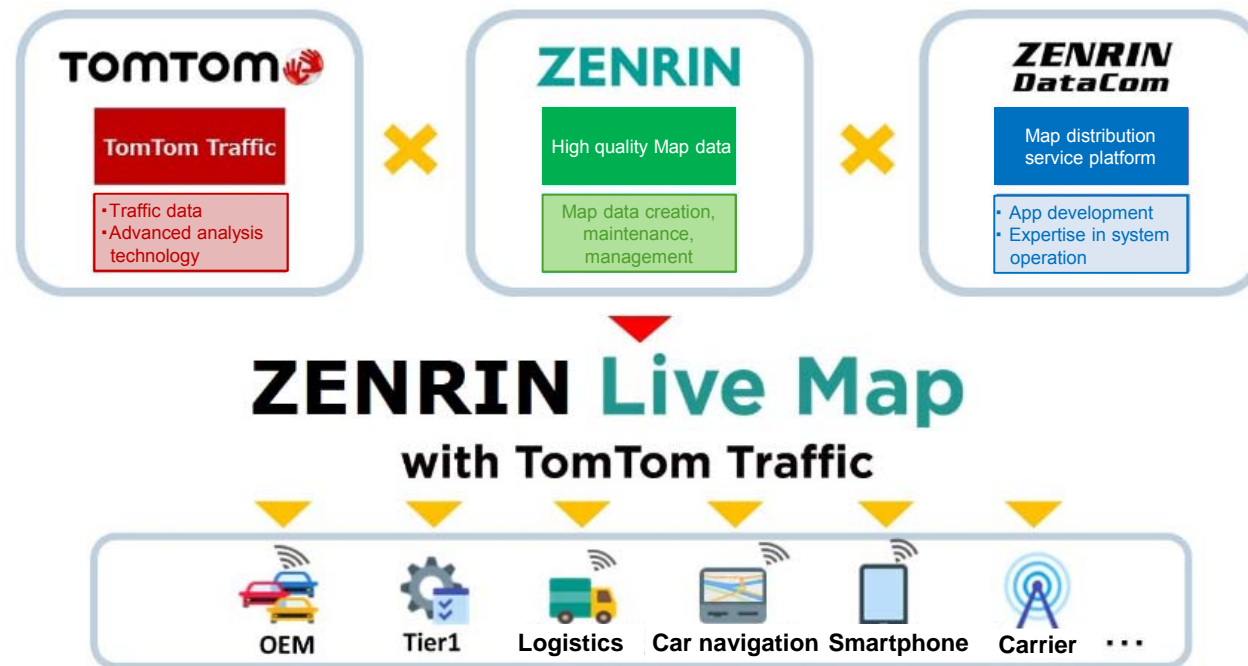
Advance development of high precision maps and improvement of the ability to address each customer's needs

- Technological contribution to the development of DMP common platform maps (cooperative areas)
- Promotion of initiatives in the competitive areas
 - Map solution for automatic driving "ZGM Auto"
 - "Map Ecosystem" utilizing position big data
- Develop the ability to respond to mass production at each customer

3-2) ZGP2020 Business Strategies – ITS Business – (ADAS initiatives)



Joint development of traffic services with TomTom (verification testing to start in or after FY2018)



Coordinate with location information big data obtained from IoT equipment, thereby contributing to the improvement of accuracy of traffic information of the society as a whole.

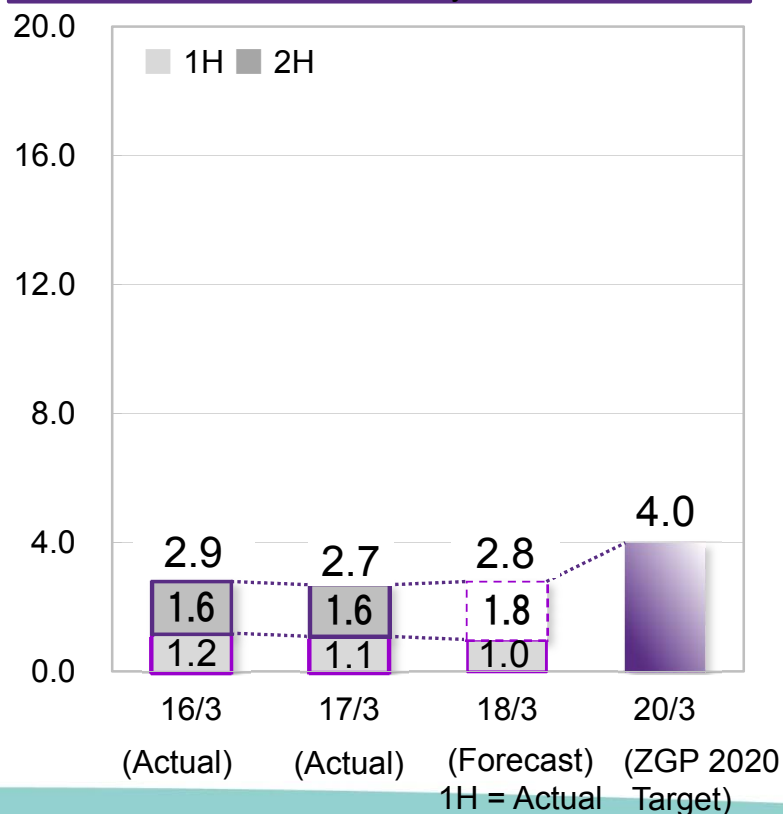
Toward the improvement of the car navigation function, the application to advanced technologies such as connected car and self-driving, and the realization of new mobility services.

3-2) ZGP2020 Business Strategy —Global Business—

FY2018 Net Sales Forecast
Compared to FY2017: +0.1 bn yen (+4.4%)

<Second Quarter Progress>

The existing authoring business targeting Europe and the U.S. was firm, although the progress in in-vehicle software-linked services have been delayed.



Restructuring of the global alliance

Expansion of business in India

Launch of business in ASEAN

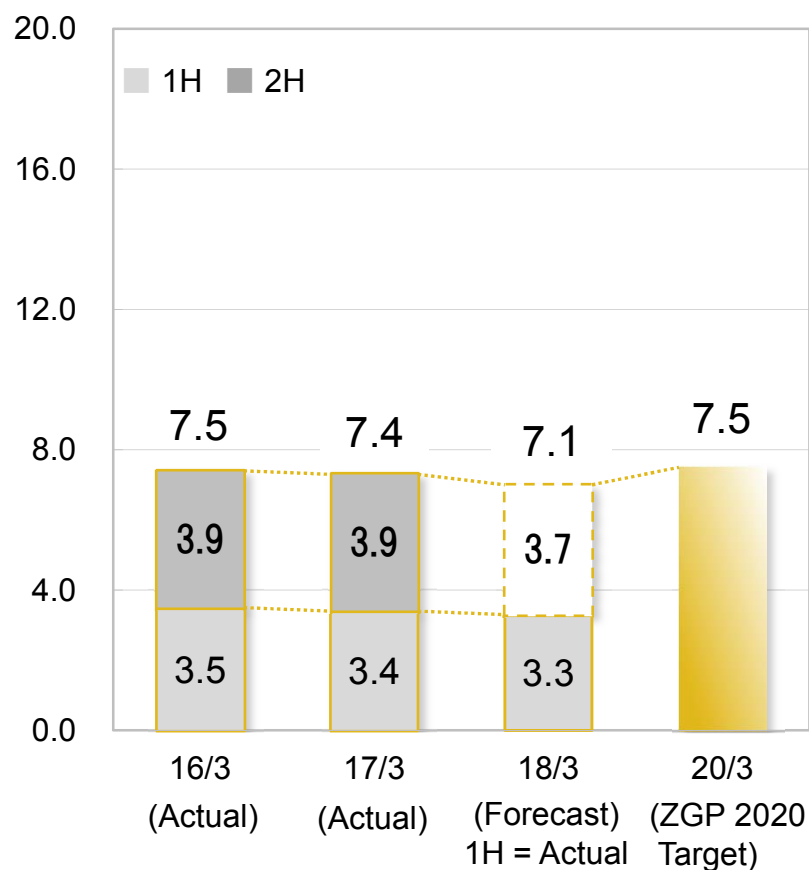
Launch of overseas GIS

Expand adoption of solution service in combining in-vehicle software

3-2) ZGP2020 Business Strategy —Other Business— (General printing, In-Ship, etc. Advertising)

FY2018 Net Sales Forecast
Compared to FY2017: -0.2 bn yen (-3.9%)

Reexamination of Group synergies



Improve the profitability of general printing business

Maintain the profitability of direct promotion

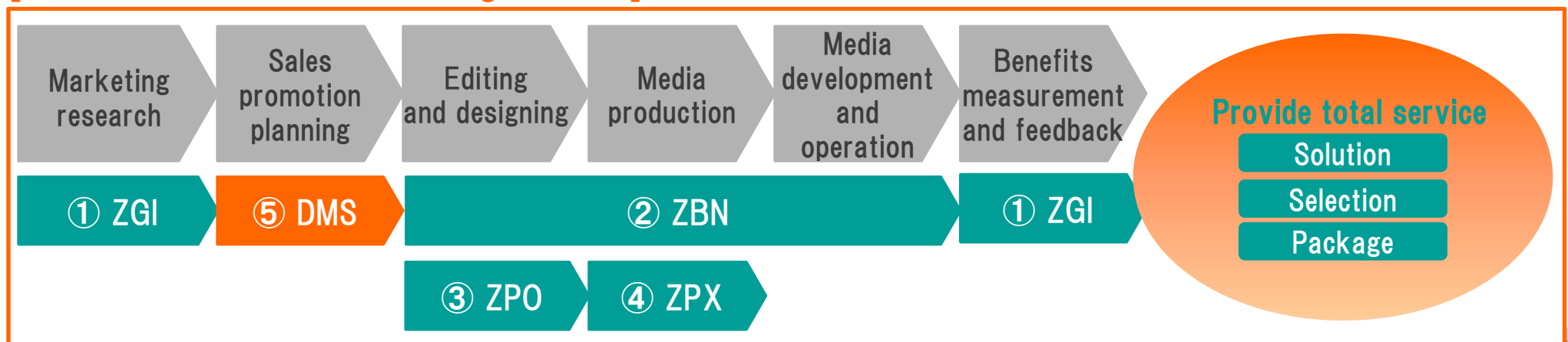
Establish marketing solution business

3-2) ZGP2020 Business Strategy —Marketing Solution Business—

Creation of new solution business by utilizing the resources of ZENRIN Group

ZENRIN Group	Business outlines of each company
①ZENRIN GEO INTELLIGENCE CO., LTD. (ZGI)	- GIS marketing, cloud services, marketing research
②ZENRIN BIZNEXUS CO., LTD.(ZBN)	- Direct mail sending service, direct mail flyers production and printing, advertising services
③ZENRIN PlusOne CO., LTD.(ZPO)	- Planning, editing and designing of a variety of publications and maps
④ZENRIN PRINTEX CO., LTD.(ZPX)	- Printing publications - Commercial printing(sales promotion, business use, books, etc.)
⑤DAITO MARKETING SOLUTIONS CO., LTD. (DMS) (became a subsidiary on October 3,2017)	- Planning and implementation of sales promotion and advertising - Planning, collecting data, editing, photographing for advertising prints

[Provide total service in Marketing Business]



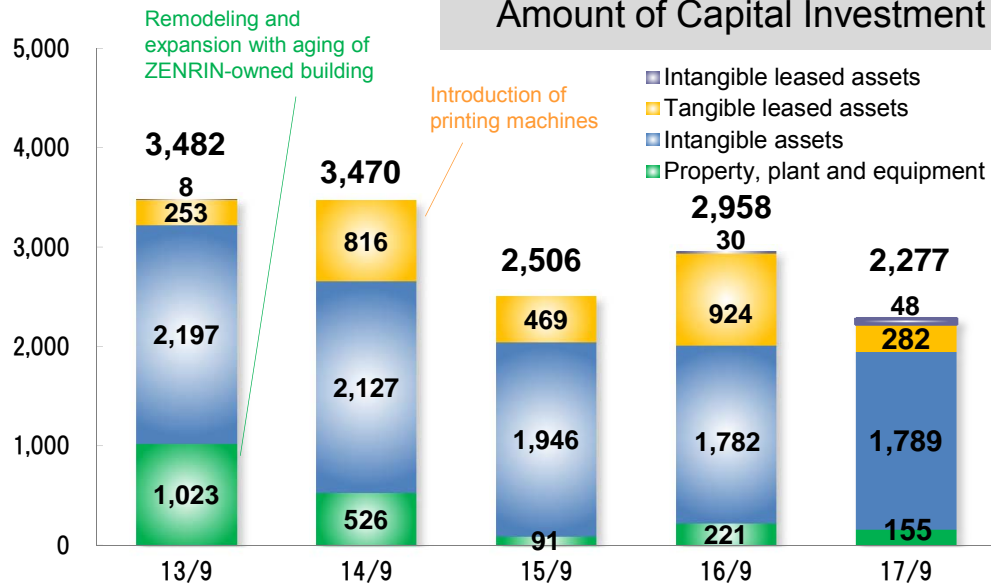
4. Appendix

- 1) Overview of Results for First 2 Quarters of Fiscal 2018
Amount of Capital Investment, Depreciation and R&D Costs
Changes in Composition of Net Sales by Quarter
- 2) Overview of Earnings Forecast for Fiscal 2018
(Excerpt from Briefing on Results for Fiscal 2017 presentation materials)
Changes in Net Sales, Income and Profit
Segment Information
Amount of Capital Investment, Depreciation and R&D Costs
- 3) Medium- to Long-Term Business Plan ZGP2020
Numerical Targets
- 4) Business Topics

4-1) Overview of Results for First 2 Quarters of Fiscal 2018

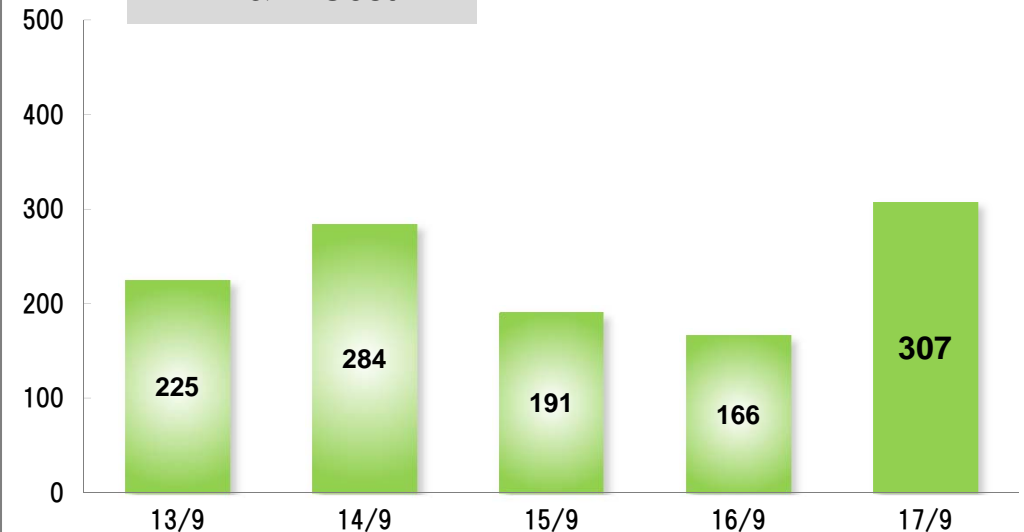
(Amount of Capital Investment, Depreciation and R&D Costs)

Amount of Capital Investment

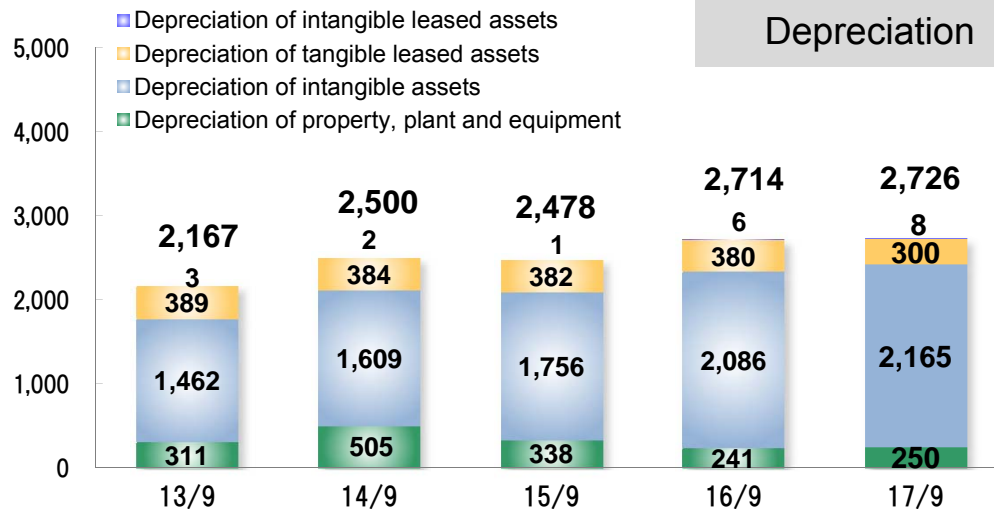


R & D Cost

(Amounts in million yen)



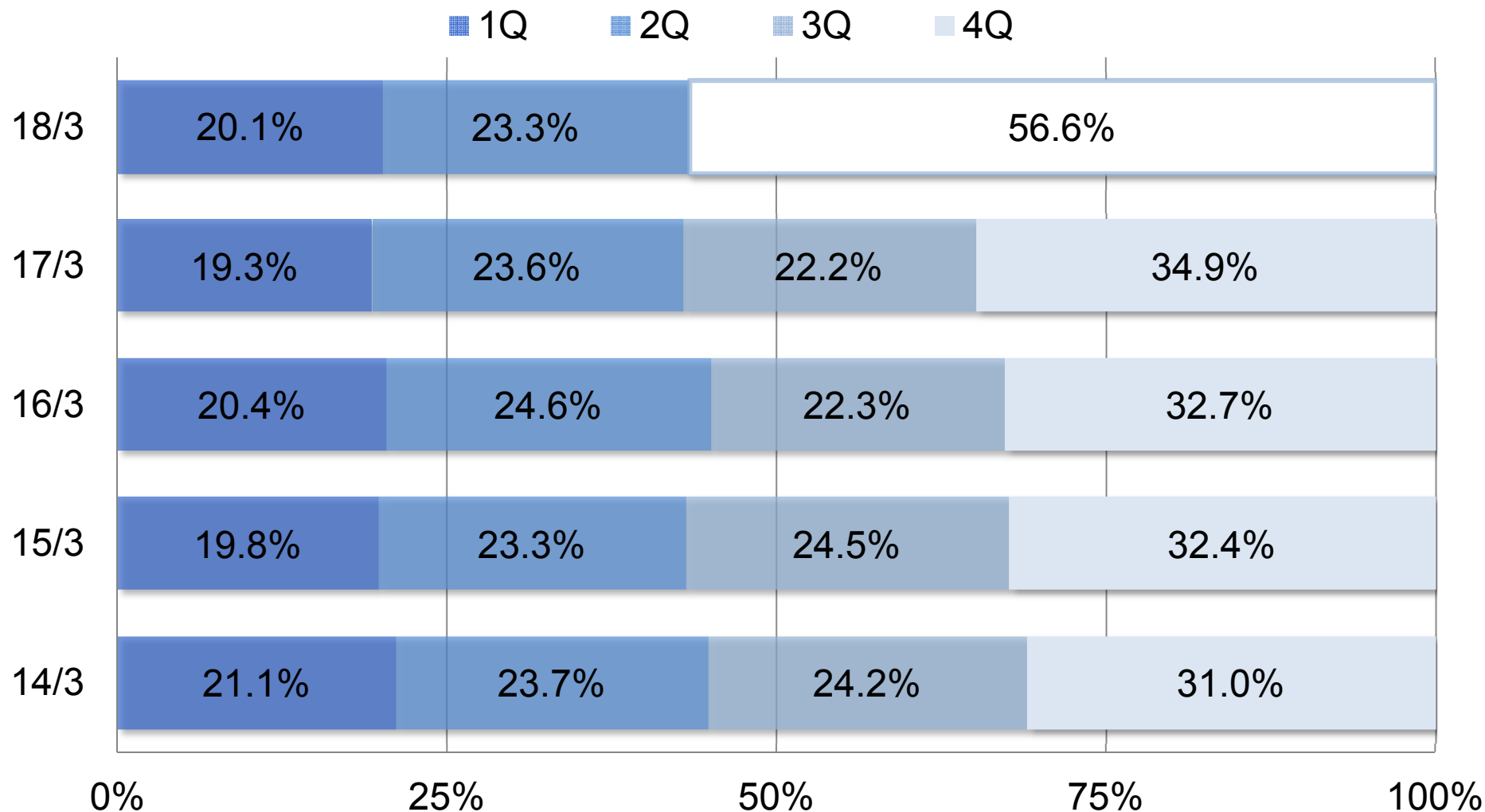
Depreciation



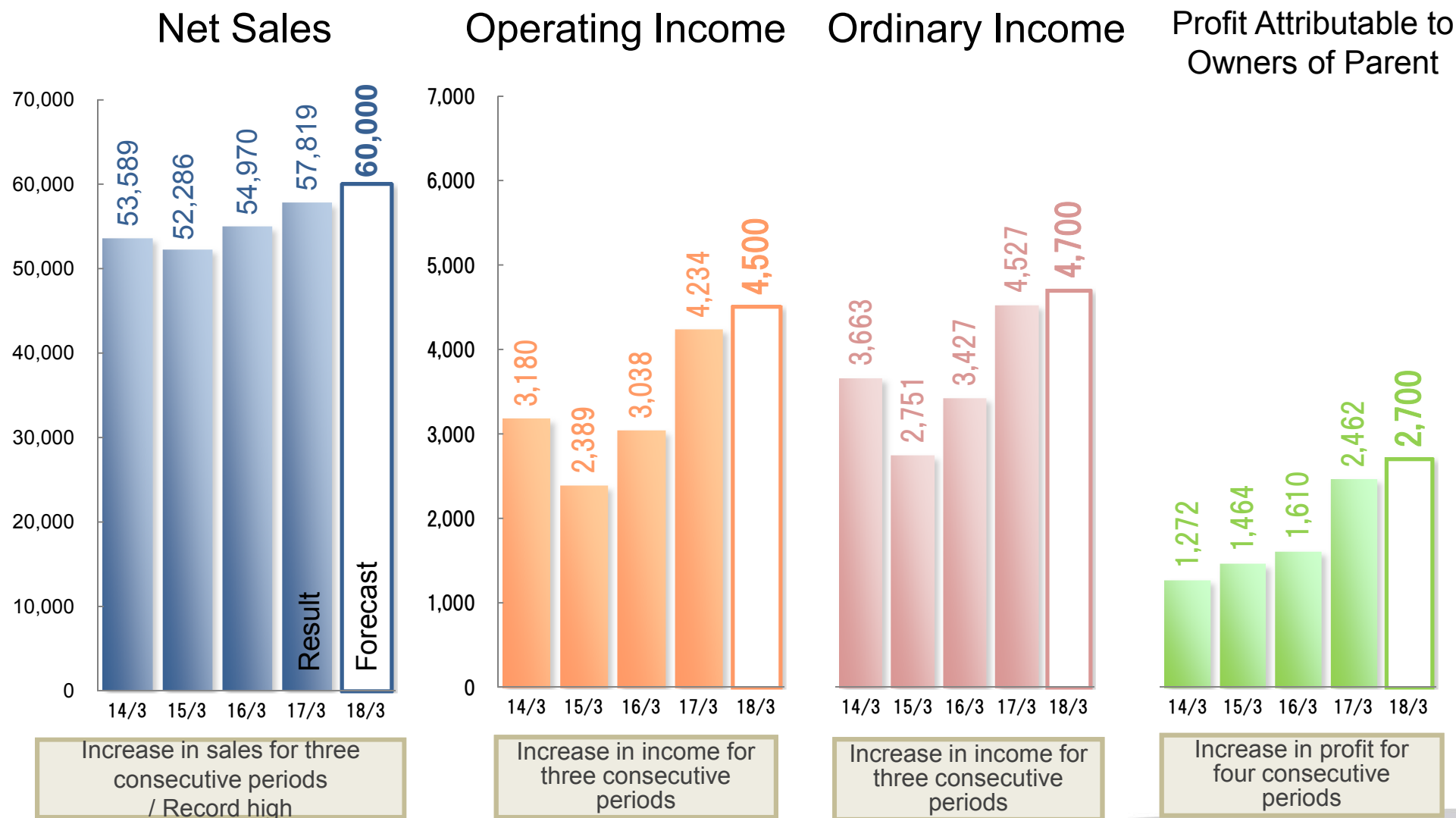
4-1) Overview of Results for First 2 Quarters of Fiscal 2018

(Changes in Composition of Net Sales by Quarter)

Briefing on Results for First 2Qs of FY2018



4-2) Overview of Earnings Forecast for Fiscal 2018 (Changes in Net Sales, Income and Profit)



4-2) Overview of Earnings Forecast for Fiscal 2017 (Segment Information)

Sales
Composition

85.1%

1. Map Database Segment

Main Items: Printed residential maps, residential map databases, map data for Japanese and overseas in-car navigation systems, services for smartphones, map data provision, etc. for various media/devices



5.8%

2. General Printing Segment

Main Items: Commercial printing



9.1%

3. Other

Main Items: Purchased products, digital signage, direct mail delivery services, in-ship advertising

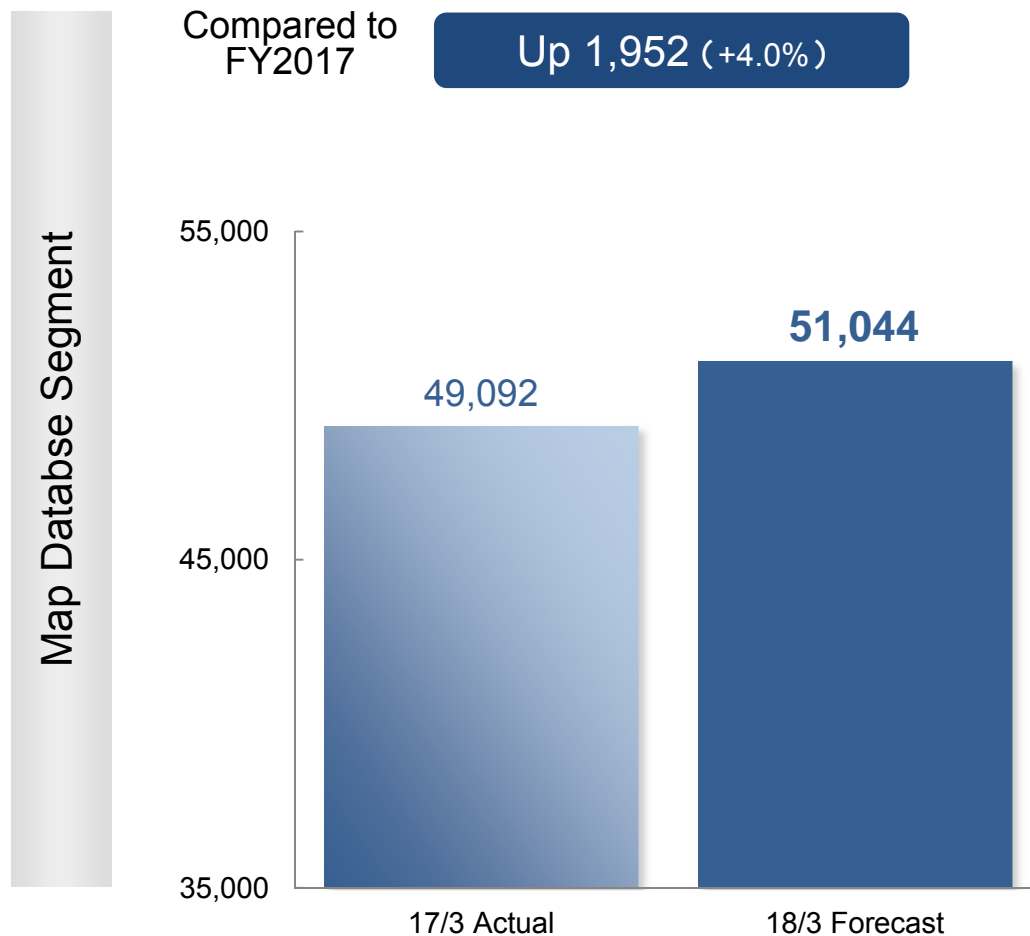


4-2) Overview of Earnings Forecast for Fiscal 2018 (Segment Information)

Net Sales

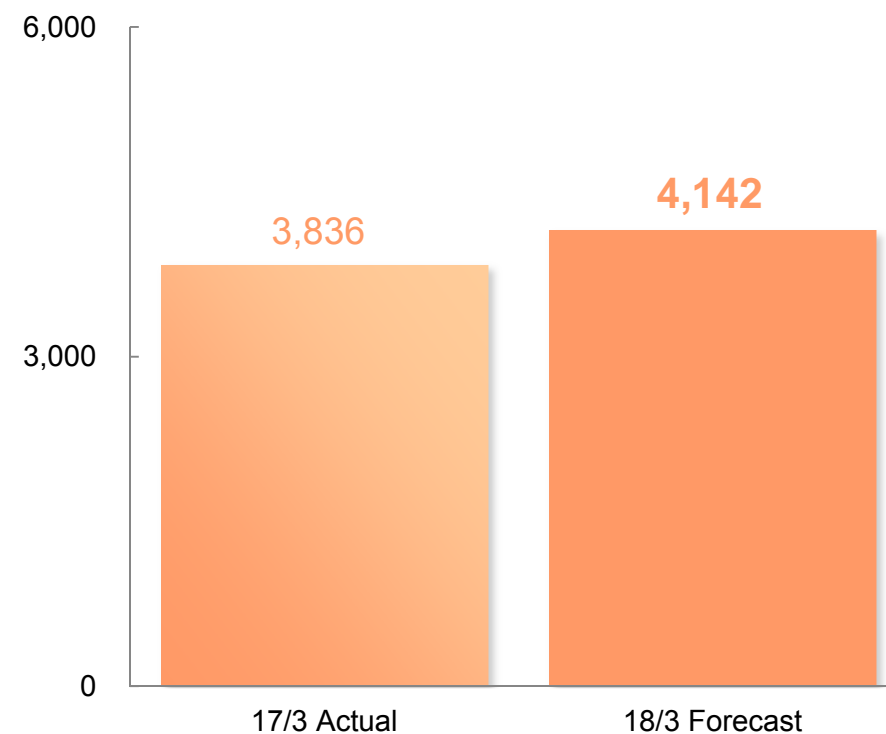
Compared to
FY2017

Up 1,952 (+4.0%)



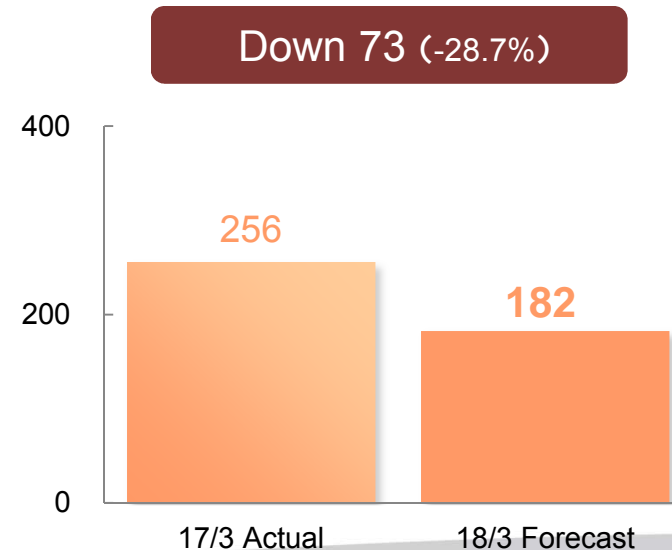
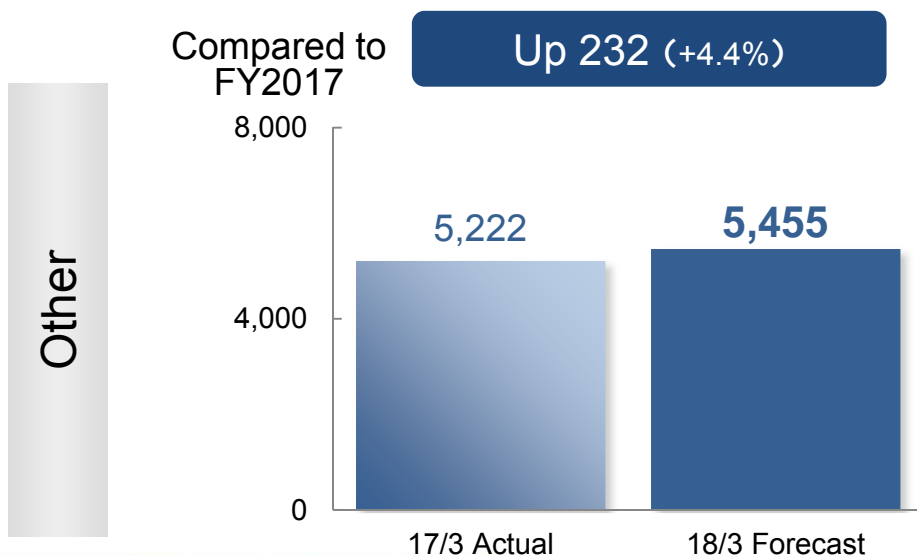
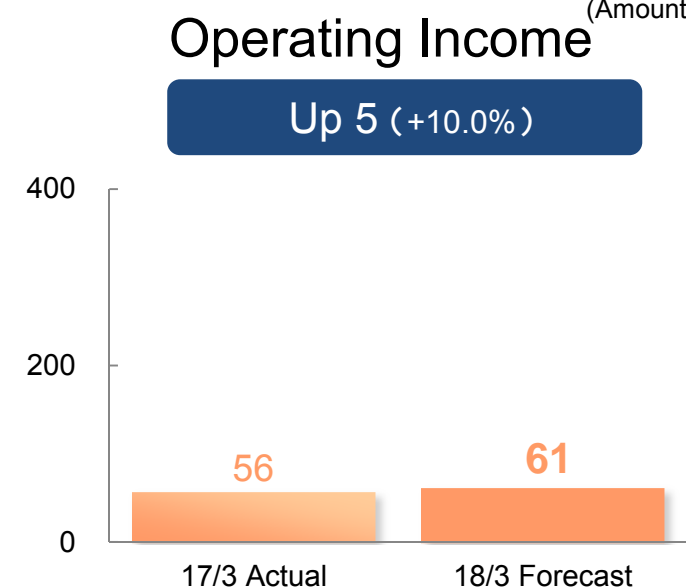
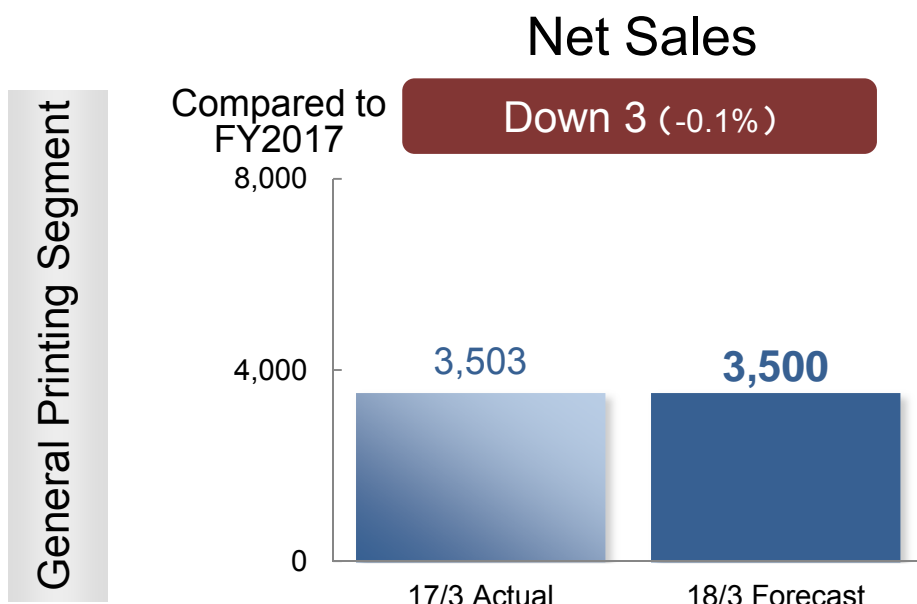
Operating Income

Up 305 (+8.0%)

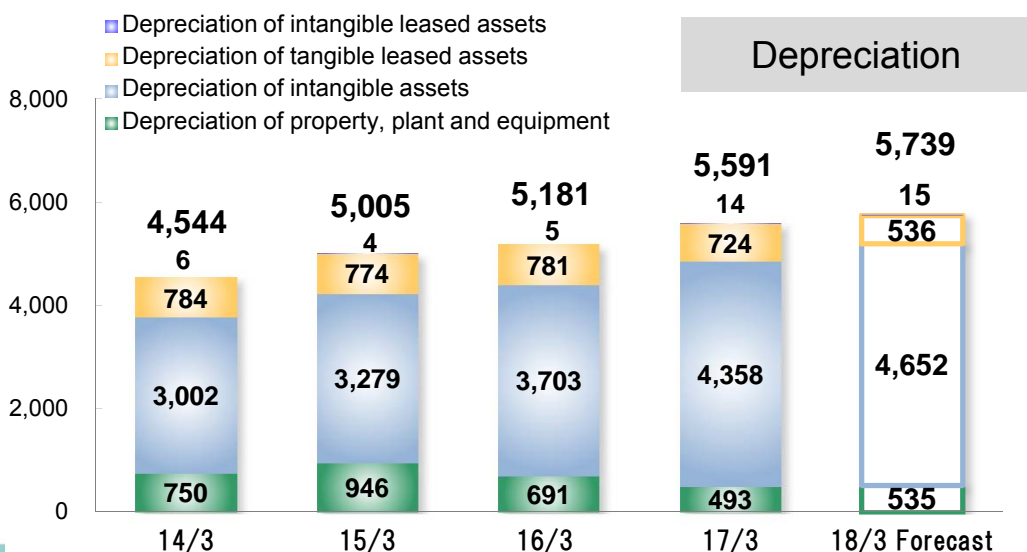
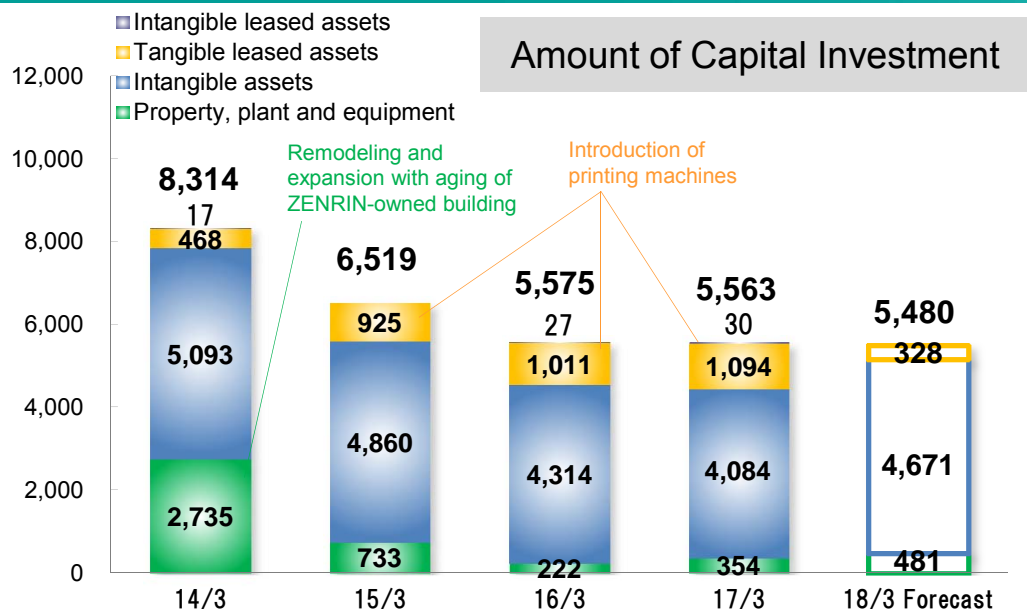


4-2) Overview of Earnings Forecast for Fiscal 2017 (Segment Information)

(Amounts in million yen)



4-2) Overview of Earnings Forecast for Fiscal 2018 (Amount of Capital Investment, Depreciation and R&D Costs)



4-3) ZGP2020 Numerical Targets

	FY2016 Actual	FY2017 Actual	FY2018 Forecast	FY2020 Target
Consolidated Net Sales	54.9 bn yen	57.8 bn yen	60.0 bn yen	70.0 bn yen
Consolidated Operating Income (Margin)	3.0 bn yen (5.5%)	4.2 bn yen (7.3%)	4.5 bn yen (7.5%)	10.0 bn yen (14.2%)
ROE (Return on equity)	4.0%	6.0%	6.3%	12% or higher
DOE (Dividend on equity on a consolidated basis)	3.0%	3.1%	3% or higher	3% or higher

■ DAITO MARKETING SOLUTIONS Becomes a Subsidiary (September 26, 2017)

DAITO MARKETING SOLUTIONS CO., LTD. (hereafter referred to as 'DMS') is engaged in the provision of marketing solutions. It became a subsidiary on October 3, 2017 as a means of strengthening our marketing solutions business.

In addition to providing map data and map-related products and services, the Zenrin Group is aiming to expand its marketing solutions business by pursuing synergies such as general printing, direct marketing, and GIS marketing as part of a shift from 'goods' to 'activities' - one of the basic components of the ZENRIN GROWTH PLAN 2020 medium to long-term business plan.

DMS was established as a printing company in 1948. Starting with advertising prints, the company has moved on to cover marketing, promotion, creative work, and web site development etc., and are now successfully engaged in a wide range of marketing solutions supporting corporate advertising and promotion. This recent incorporation of DMS as a subsidiary will bring new expertise and functions in marketing solutions, and strengthen our marketing solutions business.

By combining the expertise and functions of DMS with the strengths and functions of the companies in the group, we will be able to provide a one-stop service for marketing solutions covering everything from marketing research to marketing planning, sales promotion media production, media development and operation, and benefits measurement and feedback.

DAITO
MARKETING SOLUTIONS

Miscellaneous

4-4) Business Topics

■ Residential Map Information Service for Local Government Commencing Next Fiscal Year (September 27, 2017)

A residential map information service for local government available via the LGWAN^{(*)1} cloud administrative network “The GIS application LGWAN (provisional title) ^{(*)2} for local government” will be available from April 2018.

*1: LGWAN (Local Government Wide Area Network: Integrated Administrative Network)

A closed network dedicated to administration, maintaining high security and operated by Japan Agency for Local Authority Information Systems (J-LIS).

Local governments are able to use various administrative services jointly through this network.

*2: This service uses Fujitsu FIP Corporation cloud service LGWAN-ASP Foundation Service.

For reasons of security, and at the request of the Ministry of Internal Affairs and Communications, separation of networks connected to LGWAN, and networks connected to the Internet, is underway in local governments.

Under the previous system, the user was restricted when using residential maps on a PC since servers were established in each department rather than using the Internet, and introduction of residential map systems was common.

This service permits contracts with each local government, and by offering it as a cloud-based service not requiring installation of servers, with consequent reductions in initial investment, it will be available to all personnel in the agency through connection to the LGWAN.

The new system will facilitate response to situations in which residential maps are urgently needed such as disasters, as well as in daily operations.

Screen image



■ Strategic Innovation Promotion Program (SIP) Automated Driving Systems / Large-scale Field Operational Tests commissioned by NEDO (October 4, 2017)

Mitsubishi Electric Corporation, Aisan Technology Co., Ltd., Increment P Corporation, Toyota Mapmaster Incorporated, Pasco Corporation and ourselves were commissioned to 'Establish New Methodologies for Trial Preparation and Maintenance of Dynamic Map, and Center Functions', and 'Implement and Manage Large-scale Field Operational Tests' in association with the NEDO(*) 2017 commissioned project 'Strategic Innovation Promotion Program (SIP) Automated Driving Systems/ Large-scale Field Operational Tests'.

Last year, the six companies examined data structures for dynamic map preparation under the Cabinet Office policy for the SIP automated driving system, and clarified the necessary requirements and the issues to be resolved.

The commissioned project covers verification of the specifications and precision of the static high-accuracy 3D map data, verification of quasi-static and quasi-dynamic data generation, updating, and the distribution system, and verification of the linkage between dynamic information and dynamic map data delivered to the vehicle on in-vehicle devices. The objective was to realize the following.

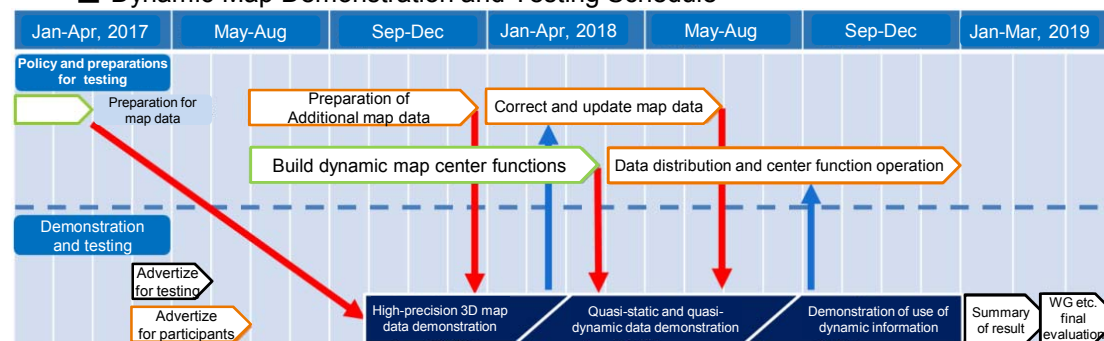
- (1) Confirmation and agreement on final specifications for practical use of dynamic maps
- (2) Promotion of international standardization and de-facto standards for dynamic maps
- (3) R&D on application of dynamic maps, and promotion of application development

Automobile manufacturers, universities and research institutions participated in this field operational test.

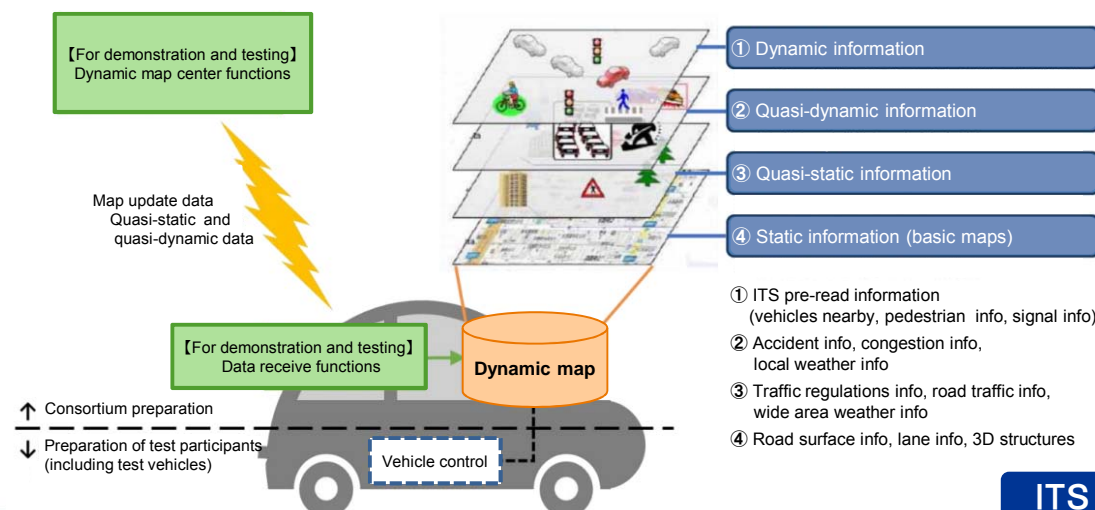
Technical verification of dynamic maps will be carried out under actual traffic conditions.

* NEDO: National Research and Development Corporation New Energy and Industrial Technology Development Organization

■ Dynamic Map Demonstration and Testing Schedule



■ Dynamic Map Demonstration and Testing System Configuration (proposal)



■ TomTom, ZENRIN, ZENRIN DataCom Agree on Collaboration Joint Development of Advanced, Real-time Traffic Service in Japan (October 27, 2017)

Toward the improvement of the car navigation function, the application to advanced technologies such as connected car and self-driving, and the realization of new mobility services.

Primary Collaboration

* Collaboration in development of traffic services

We intend to jointly develop advanced traffic service by combining TomTom's AI and machine learning technology with ZENRIN's highly accurate map database and ZENRIN DataCom's information processing technology, and to cooperate with related organizations.

* Demonstration of the traffic service will commence in or after FY 2018

We are planning to demonstrate the traffic service in or after FY 2018 for subsequent supply to domestic car manufacturers, car navigation manufacturers, and car navigation application vendors.

We will promote the development of not only traffic congestion information but also development of functions to greatly enhance driver convenience (e.g. accurate prediction of arrival times, highly-accurate prediction of tail-end of traffic congestion).

* A Map Ecosystem which coordinates and utilizes position big data obtained from IoT devices

Establishment of a Map Ecosystem to improve the accuracy of traffic information for society as a whole by linking and utilizing position big data obtained from IoT devices such as automobiles and mobile terminals through the provision of traffic services.

This will enrich existing services such as navigation, and enable the creation and provision of dynamic information to the automated driving system by linking with cooperative areas of high-precision 3D map data from Dynamic Map Platform Co., Ltd.

It will also contribute to the realization of the Smart City in cooperation with IoT such as traffic congestion control and smooth traffic flow.

We are also investigating the use of this Map Ecosystem to update map data incrementally.

ZENRIN

Maps to the Future

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