

FY 2020-2022 Medium-Term Management Plan

(Version Updated Due to the COVID-19 Pandemic: Adjusted Upward)

May 12, 2021
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Changes in Business Environment Due to the COVID-19 Pandemic and New Key Topics

- Due to the major changes in our business environment during the past year caused by the pandemic, new measures are essential for achieving sustained growth.

Changes in Business Environment Due to Pandemic

- 1. Prolonged COVID-19 pandemic**
 - New infections of variant forms are increasing (in India, etc.).
 - Vaccination-based preventive measures are progressing.
 - Investment in research of infectious disease countermeasures
- 2. Various risks increased due to nationalism**
 - Increased risk of technology leaks
 - Intentions to consolidate supply chains domestically
 - Stricter export controls
- 3. Acceleration of measures for achieving carbon neutrality**
 - Measures by various countries to achieve carbon neutrality are accelerating.
 - Measures associated with transition to EV are accelerating.
 - Hydrogen use, renewable energies, and other new measures are accelerating.
- 4. Rapid advancement in digital technologies and changes in work practices**
 - Rapid advancement in remote/online technologies
 - Working practice changes using the latest technologies, such as teleworking

New Key Topics and Measures at Shimadzu

- 1. Implementing phase II of infectious disease countermeasures**
 - Offer new purpose-specific testing methods.
 - Manage testing data via network and link to other software.
 - Expand joint R&D for infectious disease countermeasures globally.
- 2. Managing new risks**
 - Strengthen system security.
 - Reexamine global manufacturing supply chains.
 - Strengthen export control capabilities.
- 3. Strengthening sustainability management**
 - Strengthen SDGs and ESG measures.
 - Implement measures for achieving carbon neutrality.
 - Offer new solutions for measuring hydrogen, measuring battery-related quantities, etc.
- 4. Rapid advancement in digital technologies and changes in work practices**
 - Strengthen remote operability and active use of AI in products.
 - Implement DX measures for offering customer solutions and reforming businesses.

Key Changes in the Medium-Term Management Plan (FY 2020 to FY 2022)

(1) Final-year targets of medium-term management plan adjusted upward

- Performance targets for key businesses
- Performance targets for businesses being reorganized

(2) Strategies and measures reassessed due to upward adjustments

- Create Phase II infectious disease countermeasure projects
- Measures for key models

(3) Measures for new topics

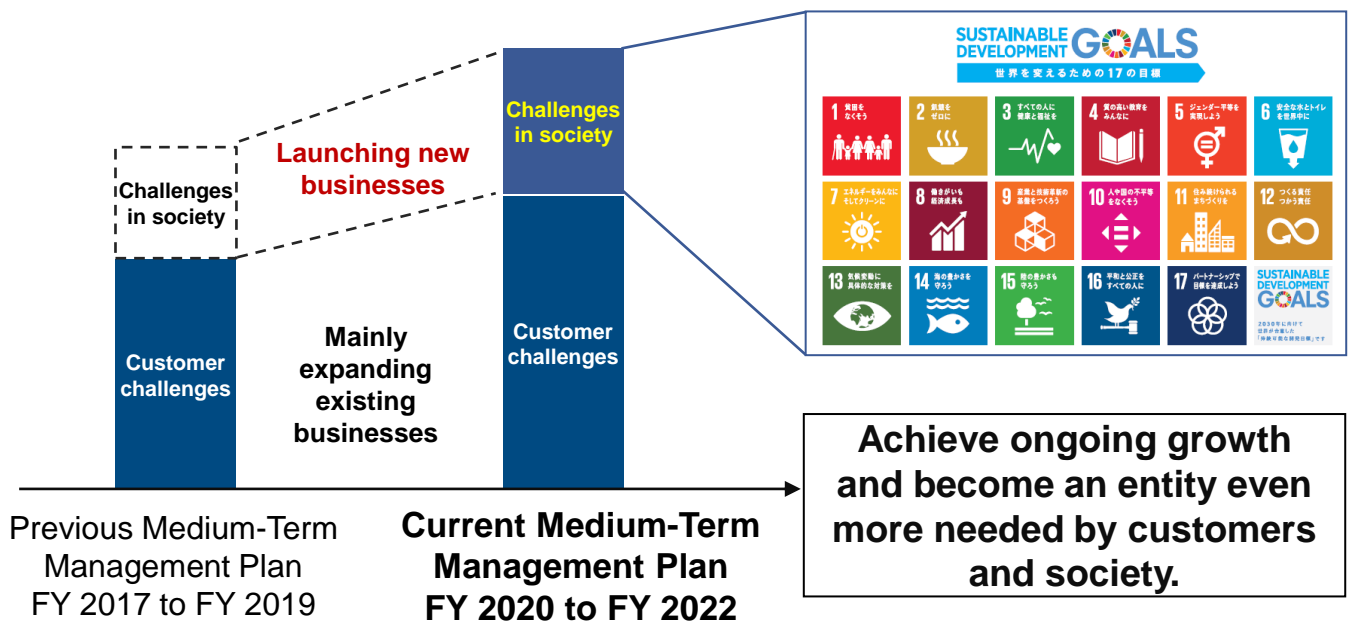
- Implement DX measures
- Sustainability management (including carbon neutrality)

II. Overview of the New Medium-Term Management Plan—1/7

Basic Concept: Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World

- During the previous medium-term management plan, we started initiatives to “become a company that solves challenges in society in collaboration with partners all around the world” and deployed necessary investments and joint research accordingly.
- Based on those initiatives, the new medium-term management plan specifies creating systems for using Shimadzu products and services to solve challenges in society, commercializing businesses based on promoting those solutions in society, and thereby creating new markets.

Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World —Creating and Implementing Systems for Solving Challenges in Society—



Previous Plan

Current Plan

Engage in Solving Challenges in Society

Shimadzu **R&D partners**

Jointly develop and release new products.

Create Systems for Solving Challenges in Society

Establish businesses based on new products, technologies, or services.

Strategic Partners
Partners for strategically promoting solutions in society

Business Partners
Partners that actually use the new systems

II. Overview of the New Medium-Term Management Plan—2/7

—Key Points of the New Medium-Term Management Plan—

Slogan >>> **Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World**
 —Creating and Implementing Systems for Solving Challenges in Society—

FY 2022 Performance Target >>> **New: Net sales of at least 430.0 billion yen, operating income of at least 57.0 billion yen, and an operating margin of at least 13.3 %**
 Original: Net sales of at least 400.0 billion yen, operating income of at least 46.0 billion yen, and an operating margin of at least 11.5 %

Measures for Important Emergency Challenges >>> **Infectious Disease Countermeasure Projects Phase II**

Four Growth Strategies >>>

- Strengthen/expand key businesses
- Strengthen/expand businesses outside Japan
- Expand businesses with recurring revenues
- Expand businesses in four growth fields

Strengthen the Foundation for Growth >>>

- Strengthen/expand business portfolio
- Develop human resources and reform human resource systems
- Implement DX measures
- Strengthen financial and development functions
- Strengthen governance
- Manage sustainability

II. Overview of the New Medium-Term Management Plan—3/7

Important Emergency Challenges
 —Promoting Infectious Disease Countermeasure Projects—


- Given that fighting the infectious disease pandemic is a critical challenge for society, we will strengthen measures to offer solutions for analyzing viral, bacterial, and other pathogens by developing new products, in addition to offering our current line of instruments and reagents.
- We will contribute to society by actively collaborating with academic institutions, hospitals, healthcare institutions, and others to “create systems for fighting infectious diseases,” rather than simply offering physical products. Collaborations will be focused on two perspectives. One is to prevent the spread of the new coronavirus, which is currently a serious problem for society. The other perspective is for developing countermeasures for infectious diseases in general.

Coronavirus Countermeasures

Virus Testing

New Coronavirus Detection Reagent Kit
 Enables PCR test in only 70 minutes using simple pretreatment

A review of the reagent kit is posted on the National Institute of Infectious Diseases website.




Simultaneous Multi-Pathogen Genetic Detection System
 Simultaneously detects multiple genes involved in viruses and bacteria that can cause infectious diseases

Product line of about 20 types of kits for detecting respiratory infectious diseases.



Pathological Diagnosis

Mobile X-Ray System (Pneumonia Examination)



Patients can be examined for pneumonia from their bedside in a patient room or ICU.


New Measures

- Improve image resolution.
- Strengthen network systems.
- Develop virus elimination systems based on optical or other technologies.

Testing Accuracy Control and Infection Prevention

Network of Infectious Disease Countermeasures

Virus Testing Pathogen Testing



Data management network

Mobile X-Ray System Microorganism Identification MS

Therapeutic Drug Development Support

System for Measuring Blood Concentration of Candidate Therapeutic Drugs for the Coronavirus

ALSACHIM
 a Shimadzu Group Company



Using a stable isotope reagent (standard substance), an LCMS system can be used to monitor the concentration of candidate coronavirus therapeutic drugs measured in the bloodstream.

New Therapeutic Drug Development Support System

Joint development with outside entities globally

- Analysis of metabolic changes associated with viral infections, for example



Infectious Disease Countermeasures

Infectious Disease Countermeasure Projects —First-Year Results—

- Improved ability to concurrently implement multiple cross-departmental projects and collaborate between departments.
- Aimed to **create systems for fighting infectious diseases**, rather than offering only products, by actively collaborating with academia, hospitals, healthcare institutions, and others.
- Contributed to international society by engaging in **countermeasures for preventing the spread of COVID-19 and fighting infectious diseases in general**.

Products

Virus Testing

Pathological Diagnosis (Pneumonia Examination)

Therapeutic Drug Development Support

PCR testing system


PCR testing reagent



Displaying results



Mobile X-ray system (pneumonia examination)




System for measuring blood concentration of candidate therapeutic drugs for the coronavirus

ALSACHIM
a Shimadzu Group Company



Creating Systems

PCR testing business
Jointly operated with Oike Clinic.



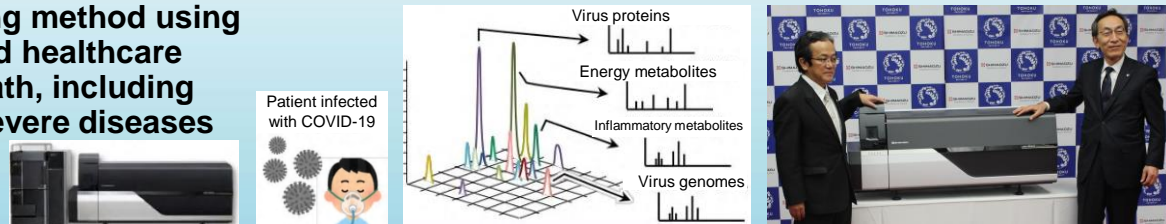
Kyoto Sangyo University PCR Testing Center
Provided support for establishing center.



Patients can be examined for pneumonia from their bedside in a patient room or ICU.

Support for Preventing Infection

Established new virus testing method using exhaled breath and deployed healthcare methods using exhaled breath, including predicting progression to severe diseases (Collaboration with Tohoku University)



Virus proteins
Energy metabolites
Inflammatory metabolites
Virus genomes

Patient infected with COVID-19

Standards testing for disinfectant ethanol



Infectious disease countermeasures Patient self-interview system



II. Overview of the New Medium-Term Management Plan—3/7

Important Emergency Challenges

—Promoting Infectious Disease Countermeasure Projects Phase II—

In addition to previous measures, also implement collaborations in and outside Japan for preventing infections, such as developing new testing methods and building testing data management systems.

Products

Creating Systems

Virus Testing

New PCR testing reagent (for variants, etc.)

PCR testing system Displaying results

Rapid virus testing MALDI-TOF/MS

Diagram of Novel Coronavirus

- N-Protein
- S-Protein
- M-Protein
- E-Protein
- Gene

(created based on National Institute of Infectious Diseases website and other sources)

Virus testing and severity prediction LCMS

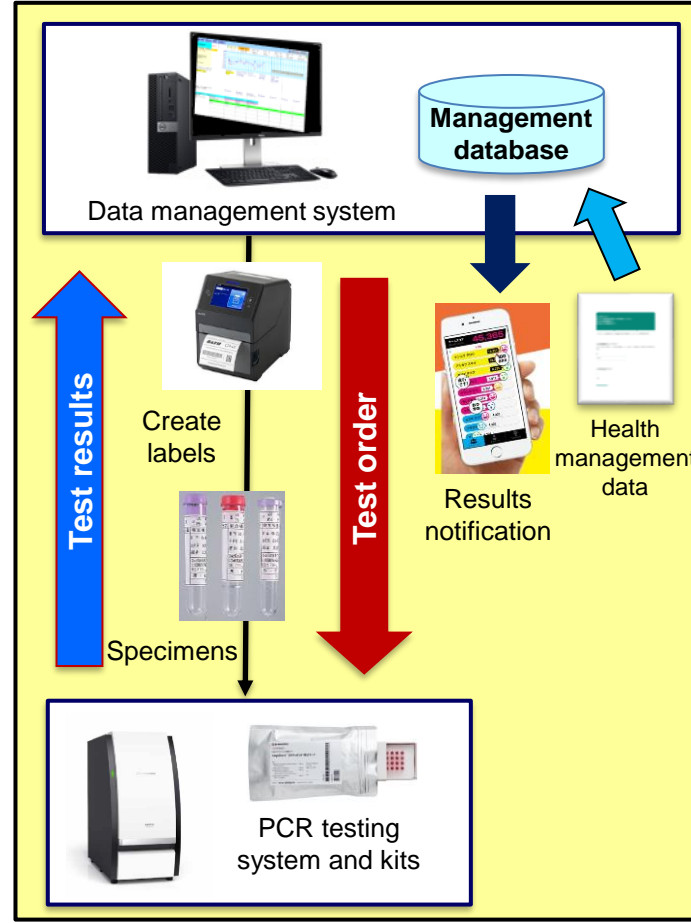
- Virus proteins
- Energy metabolites
- Inflammatory metabolites
- Virus genomes

Support for establishing PCR testing centers in companies/universities

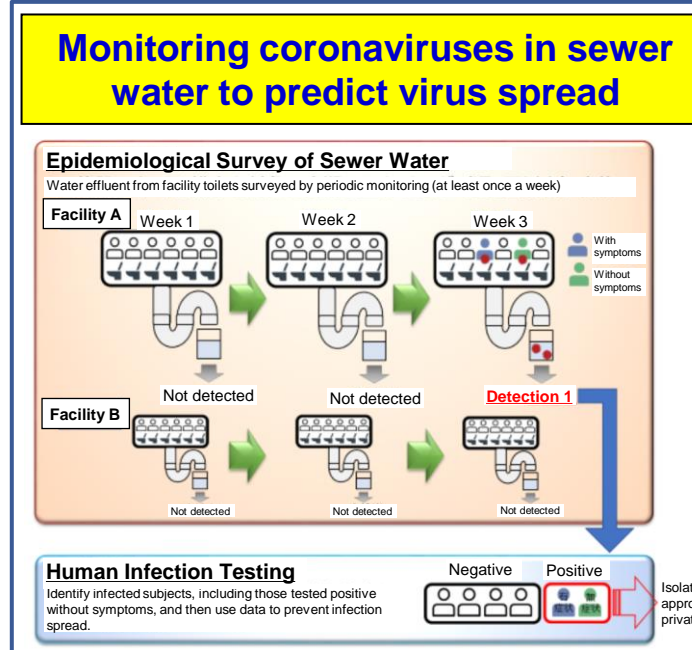
Large-scale variant analysis based on whole genome analysis

PCR/pretreatment → Whole-genome

Testing Data Management System



Virus Monitoring



Overview of Kyoto Model

—Four Growth Strategies—

Four Growth Strategies	Key Measures
Strengthen/expand key businesses	<ul style="list-style-type: none"> ➤ Strengthen competitiveness of key product lines, mainly liquid chromatographs (LC) and mass spectrometers (MS). Develop new markets and strengthen measures necessary for increasing market share, especially outside Japan. ➤ Strengthen high-end products with higher resolution and/or sensitivity. ➤ Expand/improve product line of fully automatic pretreatment systems and other products based on technologies such as AI, IoT, or robotics.
Strengthen/expand businesses outside Japan	<ul style="list-style-type: none"> ➤ Strengthen businesses outside Japan and expand businesses especially in pharmaceutical, chemical, healthcare, environmental testing, and government/academia fields. ➤ Offer various kinds of solutions globally by strengthening partnerships with strong partners in various regions of the world and by strengthening measures in pharmaceutical, food science, environmental, or other regulatory compliance fields.
Strengthen businesses with recurring revenues	<ul style="list-style-type: none"> ➤ Strengthen the product line of consumables and offer a diverse variety of solutions, such as new service packages. ➤ Also develop business models based on new billing systems, attract new customers, and develop new fields.
Expand businesses in four growth fields	<ul style="list-style-type: none"> ➤ Advanced healthcare: Accelerate commercialization in preventive, diagnostic, treatment, and other fields, such as dementia and cancer treatment. ➤ Environmental/energy: Strengthen ability to offer solutions for electric mobility, storage batteries, and renewable energy. ➤ Materials: Promote materials informatics, which combines data from measuring materials and analyzing components. ➤ Infrastructure: Develop businesses that combine existing seeds with new technologies. ➤ Use Startup Incubation Center to accelerate commercialization of businesses in the four growth fields.

II. Overview of the New Medium-Term Management Plan—5/7

—Investment in Capital Equipment and R&D—

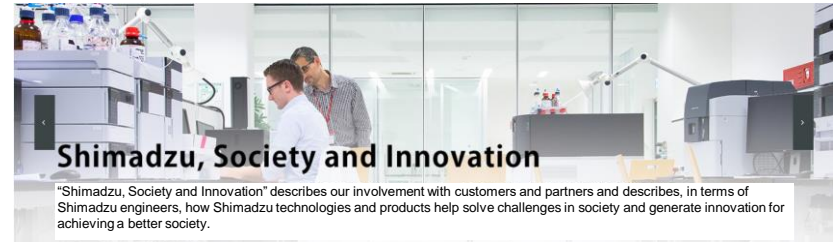
- Capital equipment investment: Expand/improve the business base mainly outside Japan, such as by strengthening sales bases and Innovation Centers.
- R&D: Develop technologies and strengthen the competitiveness of key businesses, mainly for liquid chromatographs and mass spectrometers. Accelerate R&D in advanced fields, such as infectious disease countermeasures, advanced healthcare, innovative biotechnologies, and **carbon neutrality**.
- **M&A and capital participation: Strengthen mainly LC and MS businesses (expand reagent, consumable, and instrument product lines and expand sales/service networks).**

Capital Equipment Investment: 54.0 billion yen (14.5 billion yen invested in first year)

- Strengthening the business base outside Japan
 - North America Sales/service: Expand laboratory training center; Manufacturing: Expand analytical instrument manufacturing capacity.
 - Europe Sales/service: Expand/improve clinical laboratory and establish new branch.
 - China Development: Establish joint laboratory for clinical software, etc.; Manufacturing: Expand analytical instrument manufacturing capacity.
 - Other Asian countries Manufacturing: Strengthen in-house manufacturing of analytical instruments.
- Other investments
 - New research building at Technology Research Laboratory (**completed October 2020**), strengthen manufacturing function (at Sanjo Works, etc.), and so on.

R&D: 53.0 billion yen (15.7 billion yen invested in first year)

- Key businesses: LC and MS
- Key topics: Infectious disease countermeasures, advanced healthcare, food science, **carbon neutrality**, advanced analysis, the brain/five senses and innovative biotechnology, AI, etc.



II. Overview of the New Medium-Term Management Plan—6/7

—Performance Targets—

FY 2022 corrected performance targets: Net sales of at least 430.0 billion yen (increased 30.0 billion yen) and operating income of at least 57.0 billion yen (increased 11.0 billion yen)

- The first year, FY 2020, was impacted by the pandemic, but significantly exceeded the target specified at the beginning of the year due to infectious disease countermeasure projects, emergency management measures, and other measures.
- By steadily implementing strategic measures specified in the new medium-term management plan, we plan to restore a growth trend by the second and third years (FY 2021 and FY 2022, respectively).

New Target

Units: Billions of yen		FY 2019	FY 2020	FY 2022 Target	Increase from FY 2019	Percent Increase from FY 2019
Net Sales		385.4	393.5	At least 430.0	44.6	11.6%
Operating Income		41.8	49.7	At least 57.0	15.2	36.2%
Operating Margin		10.9%	12.6%	At least 13.3%	—	2.4%
ROE		10.8%	11.3%	At least 10%		
Average Foreign Exchange Rate	US\$	¥108.78	¥106.11	¥105.00		
	€	¥120.86	¥123.75	¥120.00		

Comparison to Original Target

Units: Billions of yen		FY 2022 Original Target	FY 2022 New Target	Increase from Original Target	Percent Increase from Original Target
Net Sales		At least 400.0	At least 430.0	30.0	7.5%
Operating Income		At least 46.0	At least 57.0	11.0	23.9%
Operating Margin		At least 11.5%	At least 13.3%	—	1.8%
Average Foreign Exchange Rate	US\$	¥105.00	¥105.00		
	€	¥115.00	¥120.00		

II. Overview of the New Medium-Term Management Plan—7/7

—Capitalization Policy—

- In addition to maintaining an ROE of 10 % or higher, strengthen/reassess each business portfolio in terms of investment effectiveness.
- Provide value to stakeholders and contribute to society in balance with investing for future growth, mainly in R&D and capital equipment.
- We will continue to maintain stable dividends based on a target 30 % total shareholder return.

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 (Estimate)
ROE	5.5%	9.4%	11.1%	11.5%	11.7%	10.8%	11.3%	At least 10%
Dividend (yen)	13	18	20	24	28	30	34	35
Total Shareholder Return	20.8%	22.2%	23.3%	23.7%	25.4%	27.8%	27.8%	27.9%



Shimadzu Integrated Report
<https://www.shimadzu.com/ir/library/annual.html>



III. Strategic Measures in the New Medium-Term Management Plan

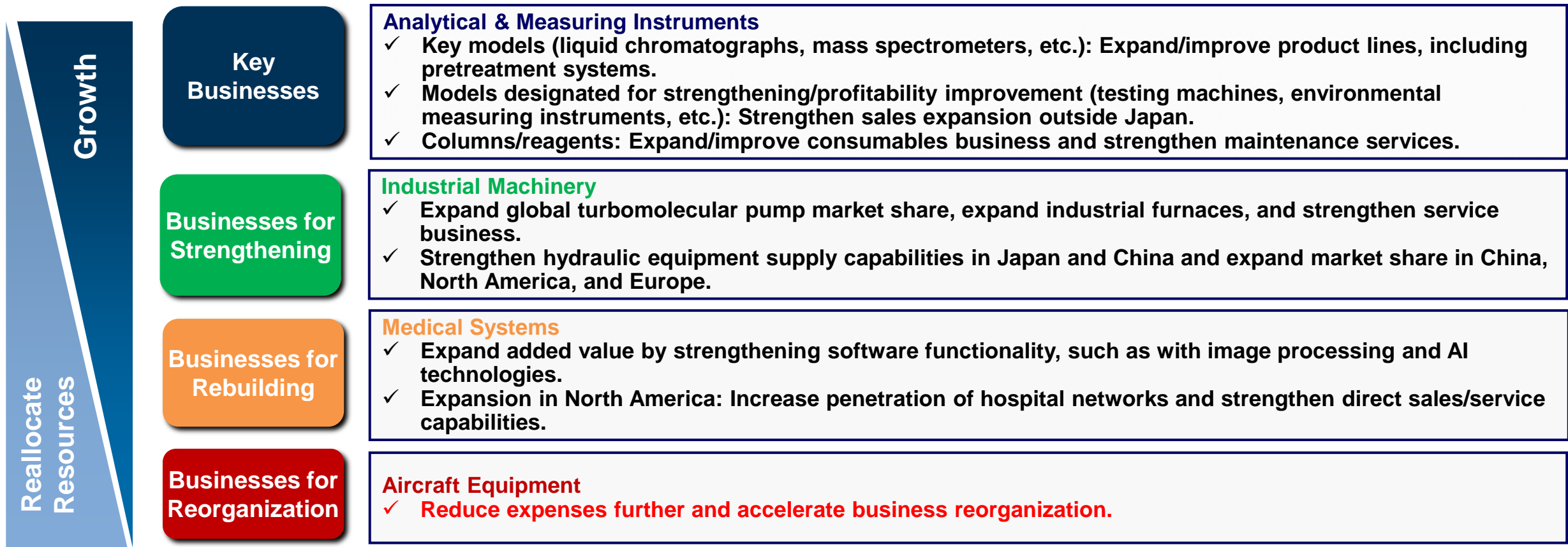
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- **Strengthening the Foundation for Growth—Reforming Business Portfolios**
- **Sales Target by Business Segment**
- **Strengthening Key Businesses for Analytical & Measuring Instruments Segment**
 - (1) **Liquid Chromatographs (LC)**
 - (2) **Mass Spectrometers (MS)**
- **Strengthening Businesses outside Japan**
- **Implementing DX Measures**
- **Strengthening Businesses with Recurring Revenues**
- **Expanding Businesses in Growth Fields—Startup Incubation Center**
- **Implementing Sustainability Management**

III. Strategic Measures in the New Medium-Term Management Plan—1/7

—Strengthening the Foundation for Growth— Reforming Business Portfolios

- Improve the profitability of current businesses and reassess the future growth potential of each business and business category.
- Create new businesses based on synergies between different business segments.



III. Strategic Measures in the New Medium-Term Management Plan—2/7

—Sales Target by Business Segment—

- **Analytical & Measuring Instruments:** Given investment activity in pharmaceuticals and life sciences, expand key models, such as liquid chromatographs and mass spectrometers, and businesses with recurring revenues.
- **Industrial Machinery:** Given investment in semiconductor field due to 5G, for example, expand TMP business, and expand market share especially at major semiconductor manufacturing equipment manufacturers.
- **Medical Systems:** Strengthen software and expand business in North America.
- **Aircraft Equipment:** **Reduce expenses further and accelerate business reorganization.**

Units: Billions of yen	FY 2019	FY 2020	FY 2022 Original Target	FY 2022 New Target	Versus Original Target	Increase from FY 2019	Percent Increase from FY 2019
Analytical & Measuring Instruments	236.2	248.6	254.0	270.0	16.0	33.8	14.3%
Industrial Machinery	43.0	45.1	50.0	60.0	10.0	17.0	39.4%
Medical Systems	70.2	66.9	66.0	72.0	6.0	1.8	2.6%
Aircraft Equipment	30.0	28.6	25.0	23.0	(2.0)	(7.0)	-23.4%
Other	6.0	4.4	5.0	5.0	0.0	(1.0)	-16.3%
Total	385.4	393.5	400.0	430.0	30.0	44.6	11.6%

III. Strategic Measures in the New Medium-Term Management Plan—3/7

—Strengthening Key Businesses for Analytical & Measuring Instruments Segment (1)—
Liquid Chromatographs (LC)

Policies: (1) Expand line of pretreatment/detector products, etc., (2) Strengthen core products, (3) Expand/improve dedicated systems and consumables, and (4) Expand use of AI/networking

Units: Billions of yen	FY 2019 Results	FY 2020 Results	FY 2022 New Target (Original Target)	Increase (Versus FY 2019)	Percent Increase (Versus FY 2019)
LC Net Sales	63.9	67.0	75.0 (73.0)	11.1	17.4%

Points for Strengthening

- Expand/Improve Product Lines
 - Pretreatment
 - Detector
- Increase MS Efficiency
- Compliance with Regulations
- Utilize AI Technology




Expand New Pretreatment System Product Line

- Improve line of specialized pretreatment units. 
- Strengthen multi-analyte pretreatment systems. 
- Develop robotic pretreatment systems. 

Strengthen Core Products

- High-end LC (UHPLC and new detectors) 
- Standard and all-in-one LC models 
- Supercritical SFC 
- Preparative LC 

Expand/Improve Specialized Systems

- Specialized analyzers
- Application systems 
- Columns and consumable parts
 - HPLC columns 
 - Monolithic columns (new) 
 - Vials (Sample vials) 

Develop new demand for integrated HPLC systems with monolithic columns, on-site analyzers, etc.

Networking with IoT/AI Compatibility

ANALYTICAL INTELLIGENCE
The AI revolution will result in dramatic advancements in performance at your laboratory. For improving the relationship between people and analytical instruments.

LabSolutions
Progress Configuration of LabSolutions System
Analytical Network Data System Compliant with ERES Regulations



III. Strategic Measures in the New Medium-Term Management Plan—4/7

—Strengthening Key Businesses for Analytical & Measuring Instruments Segment (2)—
Mass Spectrometers (MS)

Policies: Expand business by (1) expanding product lines, (2) strengthening application systems, and (3) strengthening databases.



Units: Billions of yen	FY 2019 Results	FY 2020 Results	FY 2022 Target (No Changes)	Increase (Versus FY 2019)	Percent Increase (Versus FY 2019)
MS Net Sales	40.5	43.7	51.0	10.5	25.9%

Points for Strengthening MS

Improve Basic Performance

Smaller Size

Utilize AI Technology

Compliance with Regulations

Expand/Improve Product Lines

Increase Competitiveness and Expand Market Share

LCMS GCMS

Expand Application Fields

MALDI MS Direct MS

Develop New Fields

Imaging Mass Spectroscopy Compact MS

Strengthen Application Systems

Toxicological drugs: GCMS/LCMS; **Residual pesticides:** GCMS/LCMS; **COVID-19 testing**
Fully-automated clinical: LCMS; **Dementia:** Amyloid MS; **Microorganism identification:** MALDI

Strengthen Databases

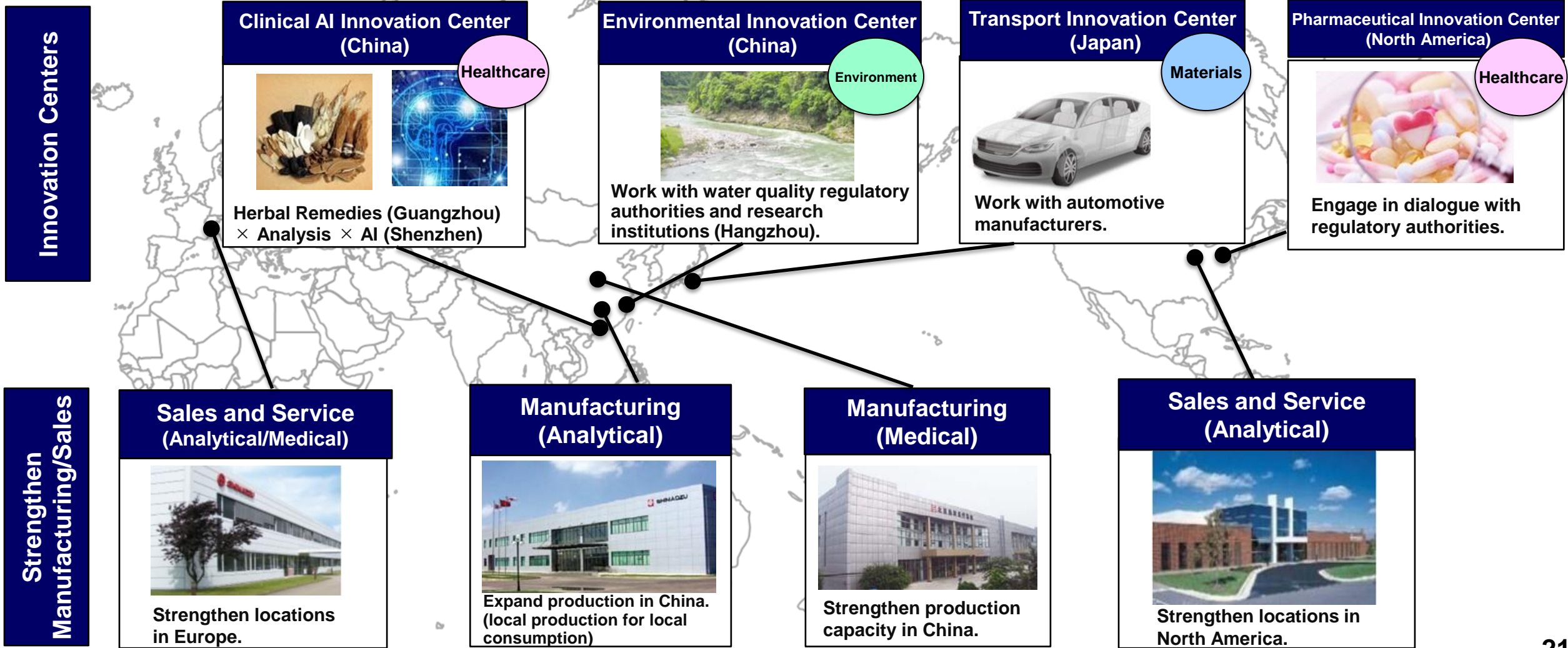
Metabolites, lipids/disease markers, forensics, environmental pollutants, functionally-enhanced foods, residual pesticides, and infectious diseases



III. Strategic Measures in the New Medium-Term Management Plan—5/7

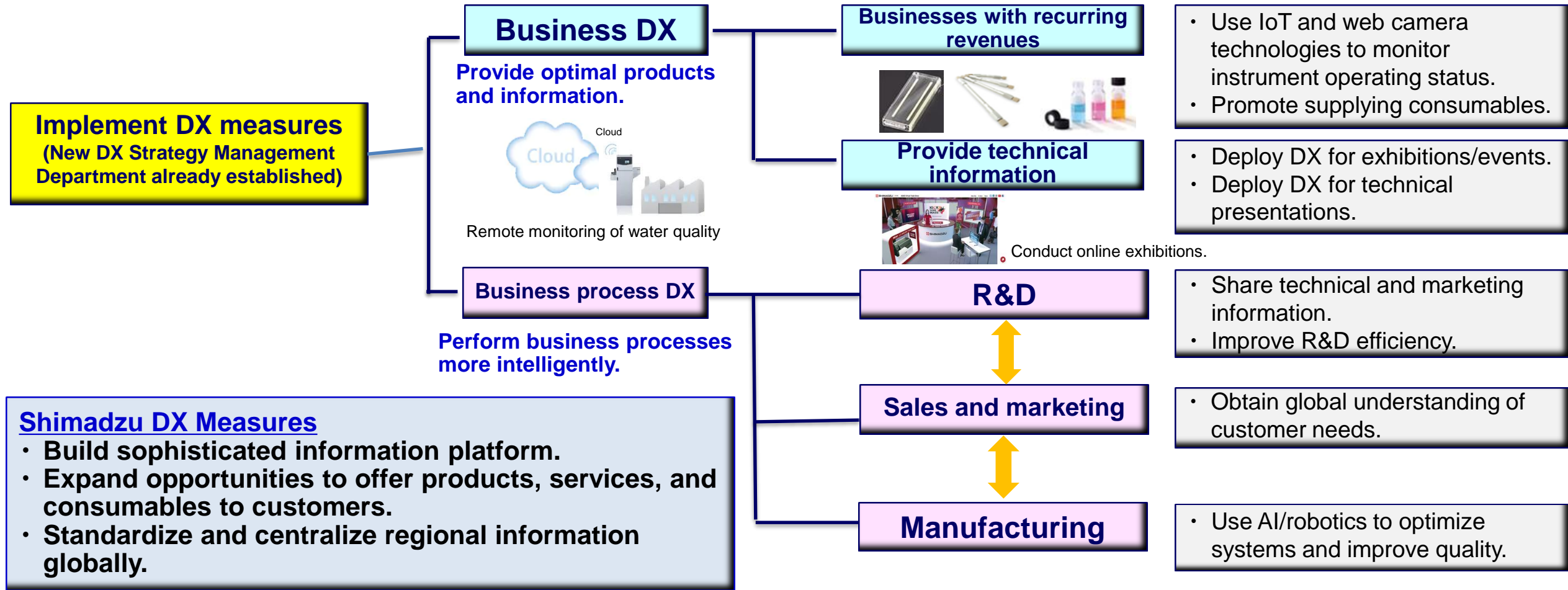
**—Strengthening Businesses outside Japan—
Strengthening Innovation Centers and Manufacturing/Sales Functions**

- **Innovation Centers:** Create new value that can be offered by working together with customers to help improve understanding and solve customer challenges.
- **Strengthen manufacturing and sales:** Build the foundation for additional business growth by strengthening production locations in China and sales bases in North America and Europe.



Implementing DX Measures

- Strengthen measures to expand/improve offering of information/services to customers (**business DX**).
- Perform business processes more intelligently and expand business opportunities by centralizing global information (**business process DX**).



Shimadzu DX Measures

- Build sophisticated information platform.
- Expand opportunities to offer products, services, and consumables to customers.
- Standardize and centralize regional information globally.

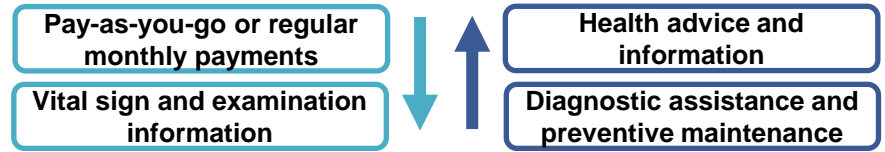
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—Strengthening Businesses with Recurring Revenues—
Deploying New Businesses with Recurring Revenues Using AI/IoT

- Use AI, IoT, or other technologies to launch new forms of business that generate subscription income or other recurring revenues.
- Also build and maintain a foundation of data platforms necessary for such businesses.

Improve Quality of Life Using Body Data or Other Medical Information



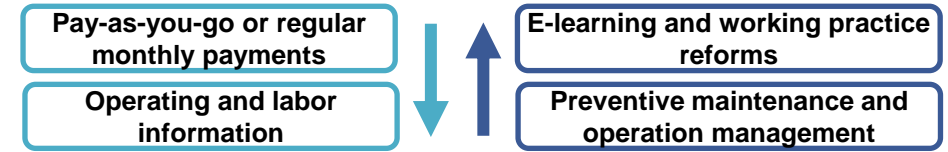
Individuals, medical institutions, etc.



Reduce Labor Requirements and Improve Productivity of Development, Manufacturing, and Inspection Processes



Companies and research institutions (measurement technicians, operators, etc.)



Start Businesses with Recurring Revenues

Data Platform
 —Use IoT/AI to collect/analyze data, expand customer contacts, and establish closer relationships—

Aim to offer consumables, software, and services optimized for the actual customer objectives and usage conditions.

Expand/improve consumables product lines and services.

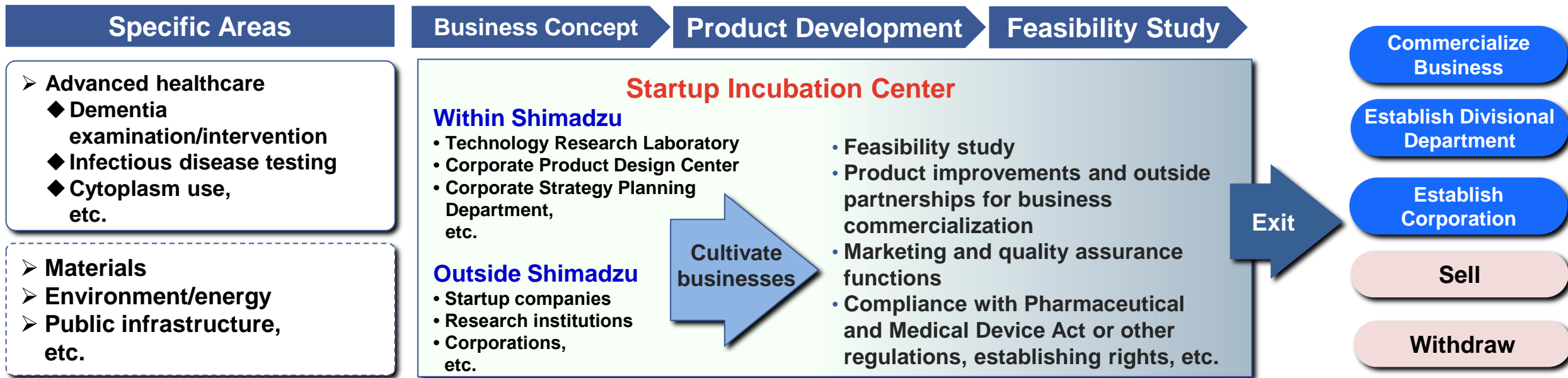
Build infrastructure, such as an e-Shop.

Strengthen partnerships with strategic and business partners.

III. Strategic Measures in the New Medium-Term Management Plan—7/7

—Expanding Business in Growth Fields— Promoting Solutions in Society

- Specify specific areas to target for creating new businesses, such as dementia examinations/interventions or infectious disease testing, develop products and perform feasibility studies involved in those target areas, and transfer the businesses to one of the business segments. Alternatively, also function as a gatekeeper that reviews exit strategies, such as selling or withdrawing from the business.
- Engage in open innovation intended to commercialize the business and create systems for actually solving challenges in society.



Accelerate Open Innovation

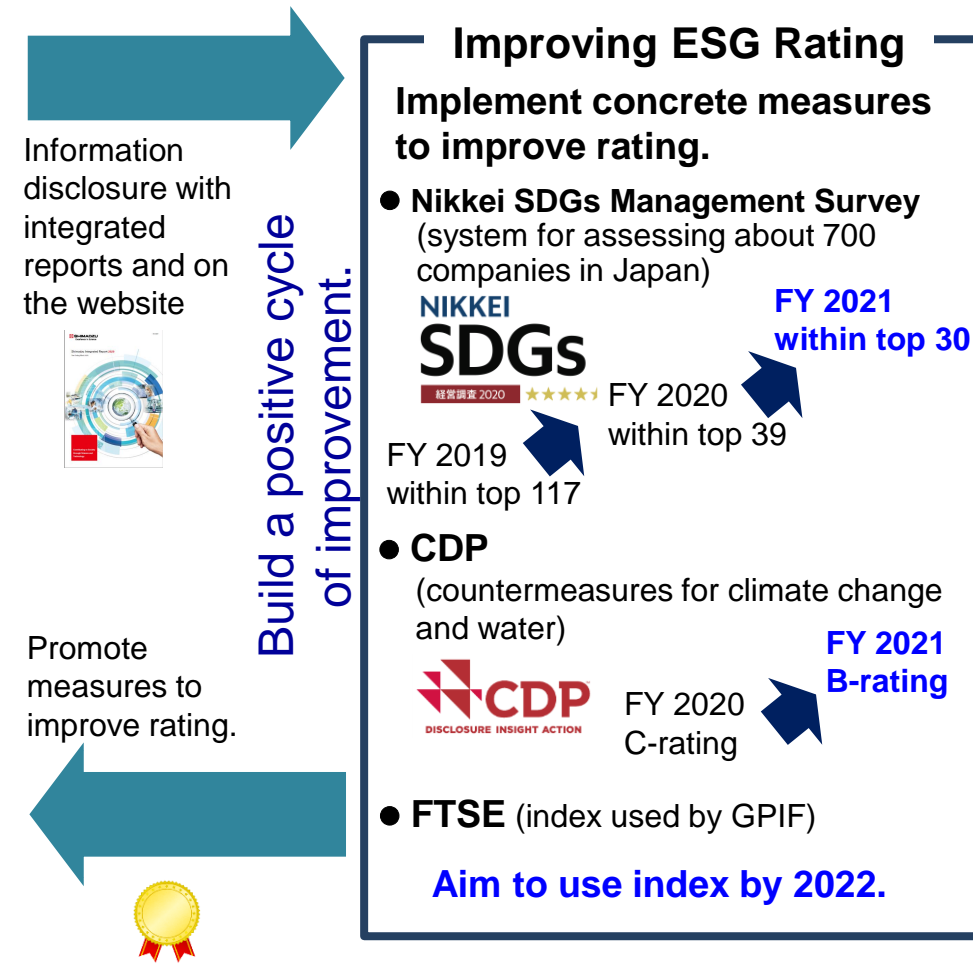
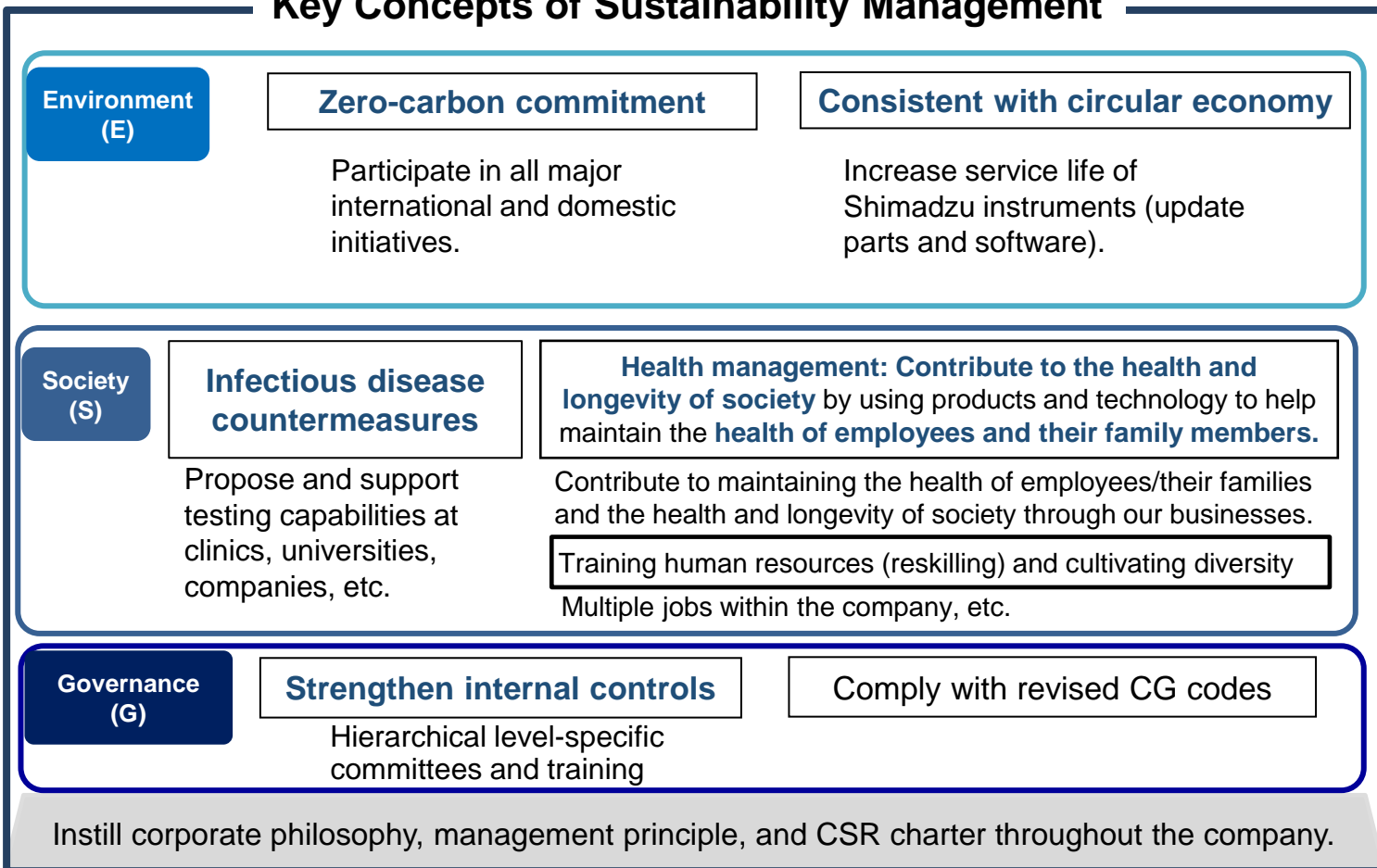
Work together with strategic partners, business partners, or startups to ensure the products/technologies that solve challenges in society are actually implemented in society.



Implementing Sustainability Management

- Use **sustainability management** to implement environmental, social, and governance (ESG) measures, such as “zero-carbon commitment” measures and infectious disease countermeasures.
- **Improve our ESG rating from ESG assessors** and aim to achieve a **positive cycle of improvement** that further strengthens measures.

Key Concepts of Sustainability Management





This document contains forward-looking statements. Forecasts of future business performance that appear in this document are predictions made by the company's management team that are based on information available when these materials were prepared and are subject to risks and uncertainties. Consequently, actual results may differ materially from the forecasts indicated above. Factors that may influence actual business performance include, but are not limited to, economic conditions within and outside Japan, changes in technologies in markets, and fluctuations in exchange rates.

I. Review of the Previous Medium-Term Management Plan

I. Review of the Previous Medium-Term Management Plan p. 27-p. 32

- Results from Previous Medium-Term Management Plan and FY 2019 Results
- FY 2019 Net Sales by Business Segment
- Collaborations with Research Institutions
- Investment in R&D and Capital Equipment
- M&A

I. Review of the Previous Medium-Term Management Plan—1/5

—Results from Previous Medium-Term Management Plan—
(FY 2017 to FY 2019)

Basic Policy: “Become a Company That Solves Challenges in Society in Collaboration with Partners All Around the World”

UtsEloedfen	FY2016		FY2019				
	Fests	M&A F&E Tags	Fests	M&A F&E Tags		V&A FY2016	
				% Tagt	h&e	F&E h&e	
Net Sales	325	400	354	98%	40	12%	
Operating Income	37	40	48	98%	48	12%	
Operating Margin	12%	11%	14%				

Record-breaking results were achieved through the end of the third quarter of FY 2019, but both net sales and operating income decreased (year-on-year) in the fourth quarter (January to March) due to the new coronavirus.

A&E F&E	US\$	¥1243	¥100	¥1286
	€	¥1881	¥100	¥2103

Changes in the External Business Environment (Political and Economic)

- Uncertainties in the business environment increased, such as US-China trade frictions and Brexit.
- In China, demand subsided in the food safety field and special demand for environmental testing (water quality) was temporary.
- In the US, there was a reactionary decline after measures to stimulate transition to digital medical equipment.
- From January 2020, effects of the new coronavirus outbreak became prominent, especially in China. With travel restrictions and cities being locked down, limitations on business activities impacted business results.

Key Measures

- Response to local needs was strengthened at the four Innovation Centers outside Japan.
- In China, products for new needs in pharmaceutical and chemical fields were strengthened.
- In North America, sales channels were strengthened by M&A and sales were improved with new medical products designed specifically for North America.
- The impact from the coronavirus was the greatest during the fourth quarter in China, but industrial machinery (turbomolecular pumps) sales were strong for 5G applications.

I. Review of the Previous Medium-Term Management Plan—2/5

—Results from Previous Medium-Term Management Plan (FY 2017 to FY 2019)—
Net Sales by Business Segment

Net Sales as Percent of Medium-Term Management Plan Final-Year (FY 2019) Target by Business Segment

- Analytical & Measuring Instruments: Net sales only reached 93 % of target, due to stagnating market conditions during the second half of the plan, the coronavirus pandemic, and other factors, but has increased 12.9 % since FY 2016 and been a driver of overall results.
- Medical Systems: Record net sales resulted in 99 % of target. Sales increased for mobile X-ray systems used to diagnose pneumonia caused by the coronavirus and also for angiography systems.
- Industrial Machinery: Given recovering capital investment levels for semiconductor manufacturing equipment, turbomolecular pump sales drove results to achieve 108 % of target, but industrial furnace sales for ceramic applications also increased.
- Aircraft Equipment: Commercial aircraft equipment sales increased in North America and Ministry of Defense aircraft equipment sales increased in Japan to achieve 104 % of target.


Units: Billions of yen	FY 2016	FY 2019				
		Medium-Term Targets	Results	Medium-Term Targets	Versus FY 2016	
	Results			% of Target	Increase	Percent Increase
Analytical & Measuring Instruments	209.2	253.0	236.2	93%	27.0	12.9%
Medical Systems	64.4	71.0	70.2	99%	5.8	9.0%
Industrial Machinery	36.2	40.0	43.0	108%	6.9	19.0%
Aircraft Equipment	26.7	29.0	30.0	104%	3.3	12.4%
Other	6.0	7.0	6.0	85%	0.0	-0.1%
Total	342.5	400.0	385.4	96%	43.0	12.5%

I. Review of the Previous Medium-Term Management Plan—3/5


—Developing and Commercializing New Technologies through Stronger External Collaborations—

- Open innovation-based collaborations with advanced customers and key opinion leaders (KOLs) aimed at solving challenges in society were strengthened.
- Measures to create new technologies and businesses through joint research or investment involving academia or startup companies were accelerated.
- **The new medium-term management plan specifies establishing new businesses by creating new products, services, or applications based on the results achieved from such measures.**

Examination/Improvement of Mild Cognitive Impairment: MCBI **Healthcare and Life Sciences**




Blood Test for MCI LC/MS



Confirmation of Recovery Level from Cognitive Impairment NIRS

- Improve mild cognitive impairment (MCI) examination accuracy.
- Confirm efficacy for MCI recovery measures.

MCBI 

Omics Applications: Osaka University **Healthcare and Life Sciences**




Established Osaka University Shimadzu Omics Innovation Research Laboratories (within the Osaka University campus in Suita, Osaka Prefecture)



- Create new products and businesses for omics applications and especially for metabolomics, which involves a comprehensive analysis of all molecules in biological organisms.




Oncogenomics Measures: iLAC **Healthcare and Life Sciences**



Next-Generation Sequencer for Analyzing Whole Genomes

Metabolite/Protein Analysis Using MS

- Participate in next-generation genome information service business.
- Develop next-generation cancer diagnostic system using MS (multi-omics analysis).

Development of Functionally-Enhanced Foods and Standardization of Testing Methods: NARO* **Food Science**



NARO Shimadzu Kyoto Laboratory for Food Innovation within Shimadzu Corporation (Kyoto)

- Joint development and standardization of new simple, quick, and accurate techniques for analyzing food components with functional benefits

*** NARO: National Agriculture and Food Research Organization**




I. Review of the Previous Medium-Term Management Plan—4/5

—Investment in R&D and Capital Equipment—

- Three-year total of R&D expenses was 49.0 billion yen, with R&D expenses 4.4 % of sales in FY 2019 (4.3 % in FY 2017).
- Strengthened R&D base, mainly at the Healthcare R&D Center and other sites in Japan, and expanded/strengthened medical systems, hydraulic equipment, and other manufacturing capabilities.
- Made various capital equipment investments intended for future growth, with additional investments planned in the EU and the U.S. during the new medium-term management plan.

R&D Investment

3-year total: 49.0 billion yen
(plan: 53.0 billion yen)

Ratio of R&D Expenses to Sales

FY 2019: 4.4 % (plan: 5 %)



Capital Equipment Investment **3-year total: 56.6 billion yen (plan: 70.0 billion yen)**

Research Support

Healthcare R&D Center
(New facility in Kyoto)



- Investment: 9.3 billion yen
- Promote integrated Analytical and Medical solutions.

Technology Research Laboratory
(New building at Keihanna)



- Investment: 8.6 billion yen
- Develop more sophisticated and diversified analytical/measuring technologies.

Application Development Center
(New facility in Kawasaki)



- Investment: 0.7 billion yen per year
- Established facility for collaborating on innovation.

Manufacturing



Shimane Shimadzu
(new building)

- Investment: 1.7 billion yen
- Expanded Medical Systems production capacity.



Tianjin Plant in China
(new building)

- Investment: 2.2 billion yen
- Expanded hydraulic equipment production capacity.



Philippines Plant
(new building)

- Investment: 0.37 billion yen
- Expanded plant and production lines.

Service



Strengthened Operations in China
(Beijing/Guangzhou/Xian)

- Built new analysis center.
- Established new seminar room.



Strengthened Industrial Machinery Service Business
New Building at SKV in Korea

- Investment: 0.55 billion yen
- Expanded/improved TMP maintenance.

I. Review of the Previous Medium-Term Management Plan—5/5

—Strengthening Business by M&A—

- Analytical & Measuring Instruments reagent/consumables product line expanded/improved and sales/service capabilities for products and consumables strengthened in Korea.
- Medical Systems and Industrial Machinery products/services outside Japan switched to direct sales model to improve profitability and expand businesses.

Analytical & Measuring Instruments: Aftermarket Sales and Service

Acquired French Reagent Manufacturer

- Acquired Alsachim in France.
- Strengthened MS business in clinical fields by including stable isotope reagents.



Changed Consumables Sales Subsidiary in China to Wholly-Owned

- Changed consumables sales subsidiary to wholly-owned and established new company.
- Strengthened business for chromatography columns, vials, and other consumables in China.



Acquired Sales Subsidiary in Korea and Established New Company

- Established sales/service subsidiary.
- Expanded business in Korea, mainly for pharmaceuticals, life sciences, and academia.



Medical Systems: Sales and Service

Acquired Sales Subsidiary in North America

- Acquired Core Medical Imaging, Inc. in the U.S.
- Strengthened sales and service in North America (Northwest region).



Industrial Machinery: Sales and Service

Acquired Servicing Company in Germany

- Acquired Infracore in Germany.
- Strengthened turbomolecular pump service capabilities in Europe.
- Strengthened relationships with major semiconductor manufacturing equipment manufacturers.

