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SHIMADZU
Excellence in Science

Growth Strategy for Medical Systems Business —Leading the Improvement of the Quality of Medicine Throughout the World with the Widespread Adoption of Expert Techniques Based on Visualization and Quantitation—

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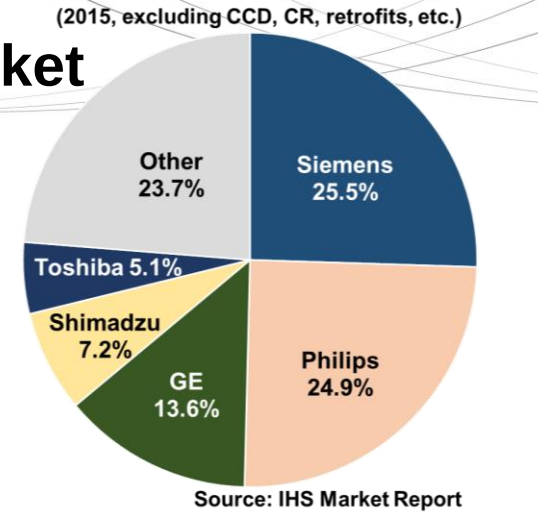
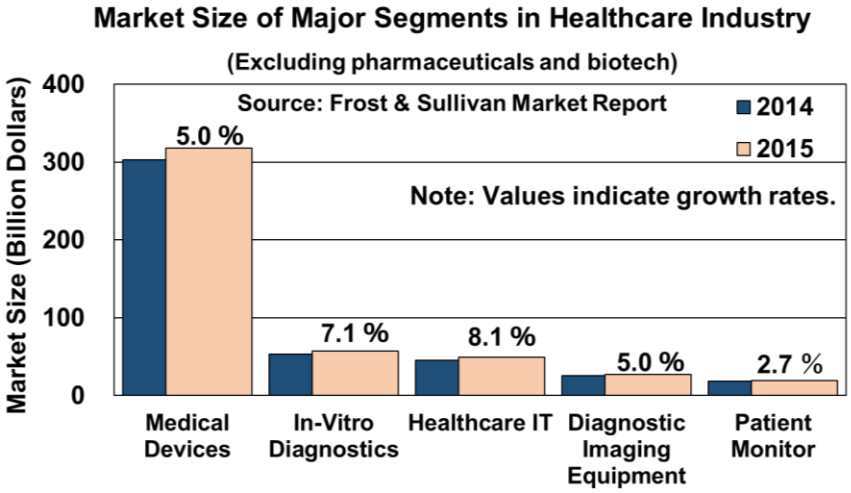
Shimadzu Corporation

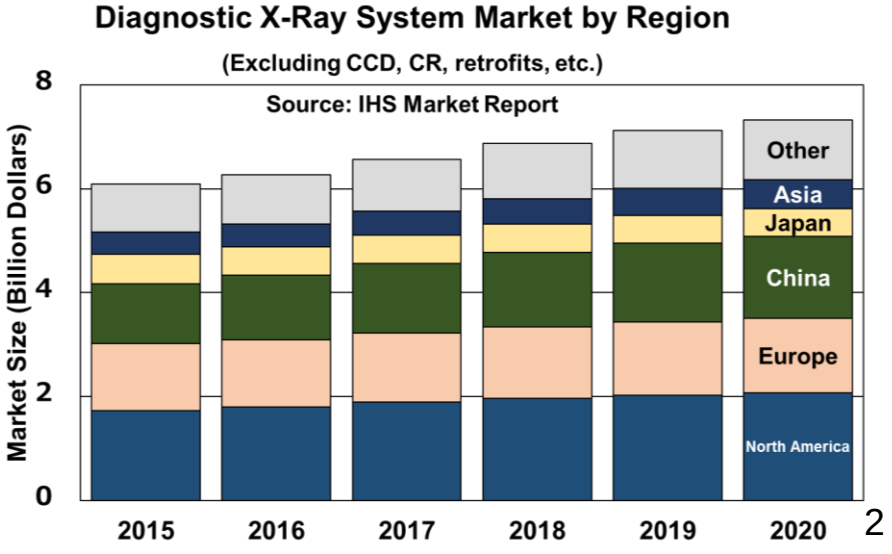
Current Status of Business

Overview of Diagnostic Imaging Equipment Market

- **Global market for diagnostic imaging equipment is about 3 trillion yen with strong growth.**
  - Of that, global market size for diagnostic X-ray systems is about 700 billion yen.
    - Globally, Shimadzu is the fourth largest (7.2 %), after the three major non-Japanese manufacturers.
    - Increasing number of companies entering the radiography equipment market (general radiography systems and mobile X-ray systems) has resulted in intense price competition and commoditization.
    - The most important regions are the United States, Japan, and China, which have large domestic markets.



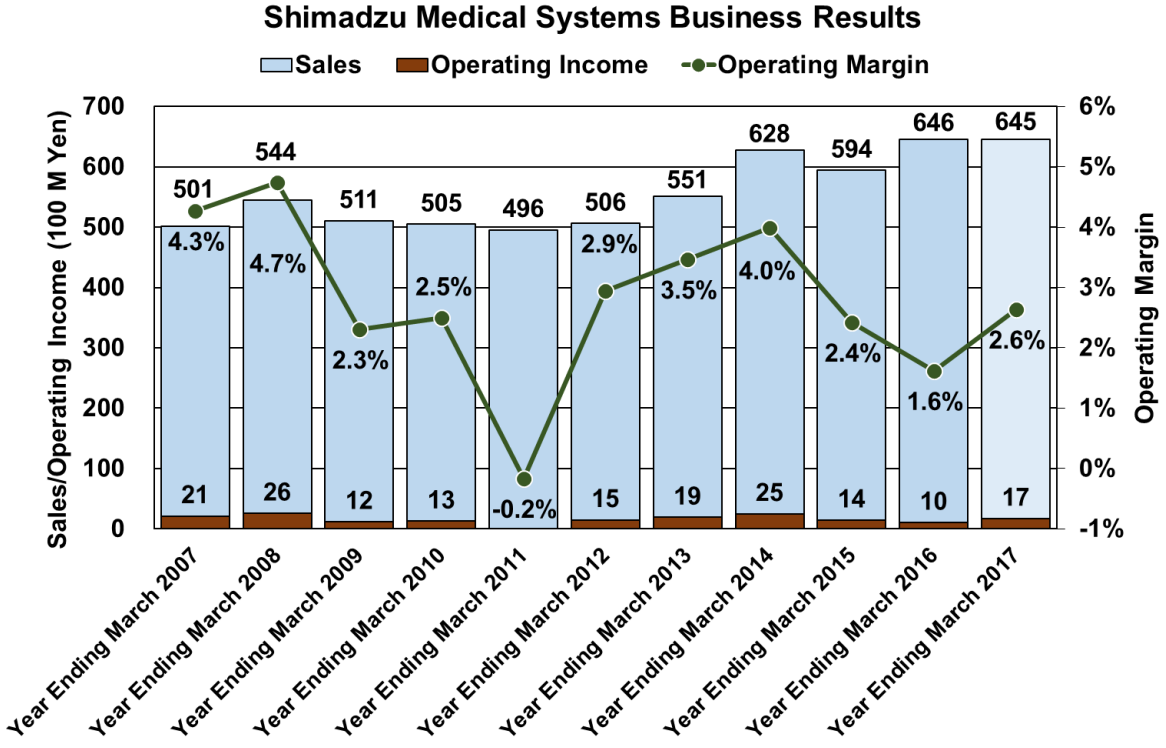




Current Status of Business

Medical Systems Business Results

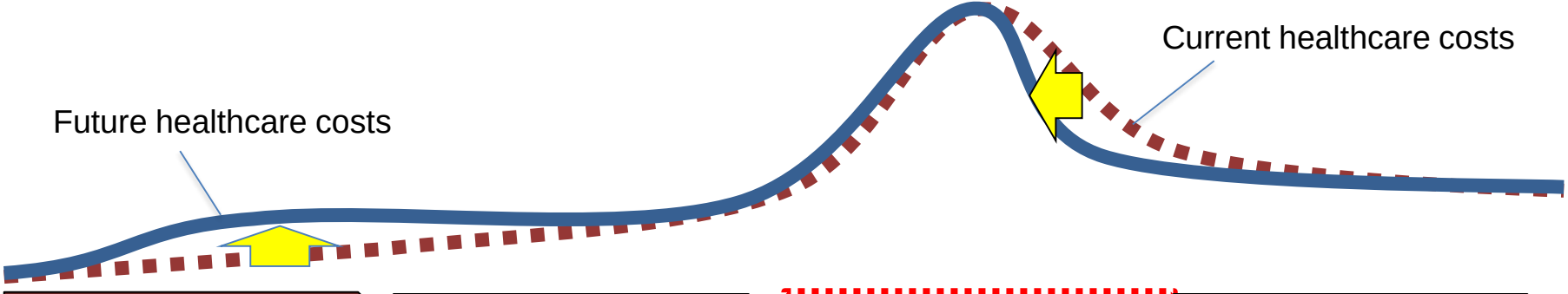
- **It is essential to improve growth potential and reform profit structure.**
  - Consolidated net sales grew by 14.4 billion yen in ten years (+29 % at 2.6 % CAGR).
  - Issue remains of consolidated operating income struggling to grow ever since the global financial crisis.



Growth Strategy

Predicted Changes in the Healthcare Market Environment

- **The key to reducing healthcare costs is prevention and minimally invasive treatments.**
  - For prevention, rapid advances are predicted for in-vitro diagnostics (mass spectrometry and genetic analysis).
  - Minimally invasive procedures improve patient quality of life and also significantly reduce healthcare costs.
    - Due to advances in medical devices, there is increasing need to use fluoroscopy for positioning.



Prevention (presymptomatic stage)	Diagnosis (outpatient stage)	Treatment (acute stage)	Prognosis (recovery stage)
Demand for ultra early diagnostic technologies will increase for the purpose of extending healthy life expectancy and reducing healthcare costs during the acute stage.	With the establishment of ultra early diagnostic technologies, the number of follow-up examinations is increasing, with patients seeking early and highly accurate definitive diagnoses.	Advances in treatment technologies will reduce the stress on patients (minimizing the target areas, using more biocompatible materials, and so on) by shortening the acute stage treatment period.	Trend for prognostic follow-up examinations is similar to diagnostics. IT will advance for supporting in-home care, due to the shortage of hospital beds resulting from aging populations.

Product Line and Direction for Increasing Competitiveness

Diagnostic X-Ray Systems

Expanding/Improving Diagnostic Capabilities

General Radiography System

Mobile X-Ray System

Fluoroscopy System

Improving Treatment Support Functionality

Surgical X-Ray System

Angiography System

Fluoroscopy / Radigraphy Functions

Electronic Medical Records System

Advanced Diagnostic Solutions

PET System

Near-Infrared Imaging System

New Treatment Support Solutions

Fluorescence Imaging System

Radiation Therapy System

Growth Strategy

Healthcare Fields for Focusing Efforts

- **Focus on healthcare fields where there is an increasing burden on patients.**

Cardiovascular Disorders

Support cutting-edge minimally invasive procedures compatible with new medical devices based on video imaging processing applications.

Angiography System

Surgical X-Ray System

Fluoroscopy System

Musculoskeletal Disorders

Support procedures for osteoporosis, bone fractures, and artificial joint surgeries with bone analysis applications.

Cancer

Of the more advanced minimally invasive cancer treatments, support surgical, internal medicine, and radiological procedures.

Radiation Therapy System

PET System

Near-Infrared Imaging System

Dementia

Support low exposure dose differential diagnosis.

Medium-Term Management Plan

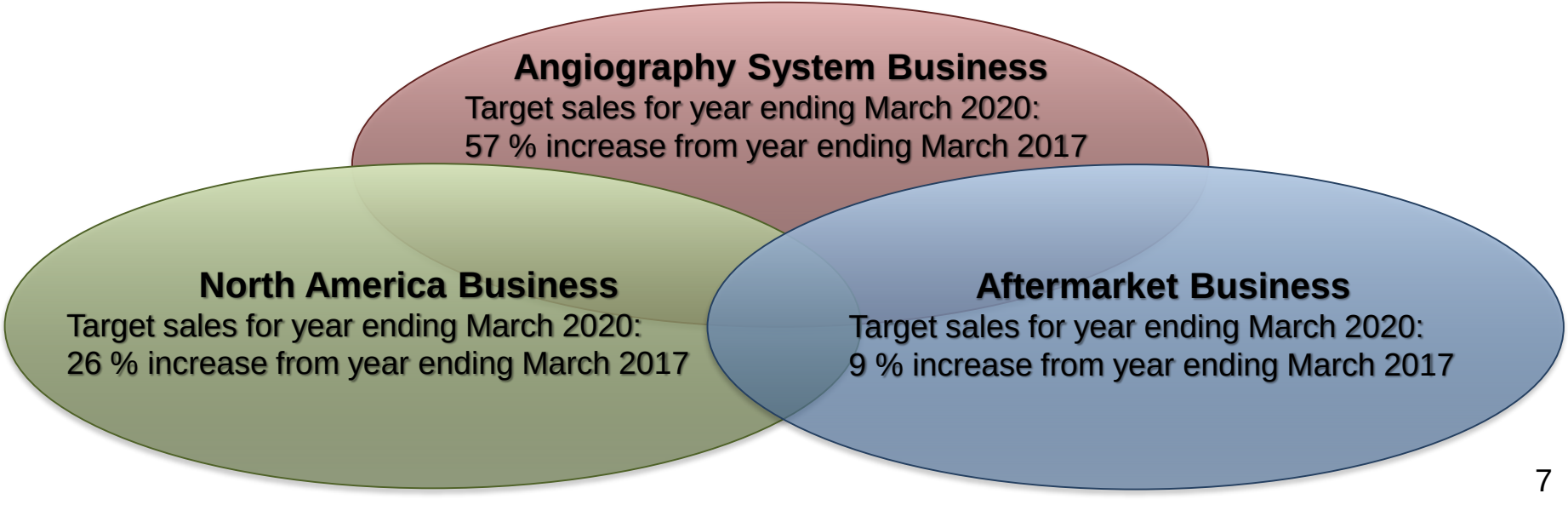
Overview of New Medium-Term Management Plan

Achieving Sustained Growth and Improved Profitability by Strengthening Angiography System, North America, and Aftermarket Businesses

Performance Targets for Year Ending March 2020

Consolidated Sales **71.0 billion yen (10 % increase from year ending March 2017)**

Consolidated Operating Income **4.0 billion yen (135 % increase from year ending March 2017)**



Medium-Term Management Plan

Strengthening the North America Business

- **Achieve the next growth by strengthening business capabilities and releasing new products.**
  Target sales for year ending March 2020: 26 % increase from year ending March 2017

  - Expand sales of diagnostic X-ray systems
    - Accelerated X-ray systems transitioning to digital from 2017, due to Medicare coverage change
    - Digital X-ray system was judged as the best in U.S. by third-party institution, KLAS.
    - Successively release new products with North America market's specifications
  - Expand sales of angiography systems
    - Establish sales/service capabilities
  - Strengthen support for customers in the East
    - Establish parts and training centers
  - Establish development capabilities that meet unique local needs and use joint research as opportunities for building the network with the customers

Medium-Term Management Plan

Strengthening the Aftermarket Business

● Offer premium services

Target sales for year ending March 2020: 9 % increase from year ending March 2017

- Respond to changing customer needs
  - Past: Service contracts that included a parts warranty increased to mitigate the risk of expensive part failures
  - Recent: Failure risk tends to decrease as product quality improves.
    - ▶ Customer needs are polarizing.
      - ✓ Treatment support equipment : Guarantees high uptime rates.
      - ✓ Diagnostic equipment : Guarantees longer service life.

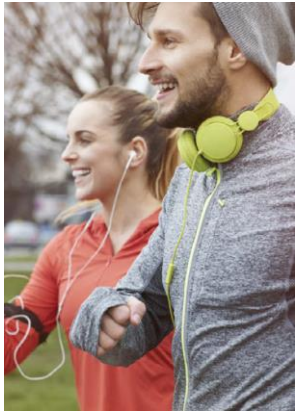
- Start offering premium services that guarantee high uptime rates.
  - Open Customer Support Center (Japan: April 2017; China: 2019)
  - Increase parts supply speed by opening Global Parts Center
  - Achieve failure prediction function using IoT

- Start offering product life plans to provide support from installation to replacement

Medium-Term Management Plan

Strengthening the Angiography System Business

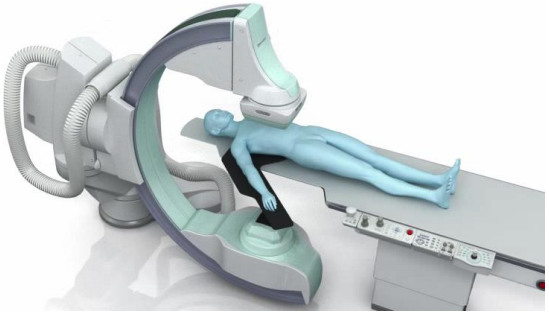
- **Support minimally invasive catheterization procedures**

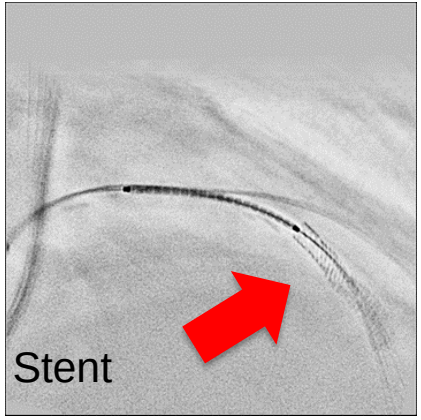


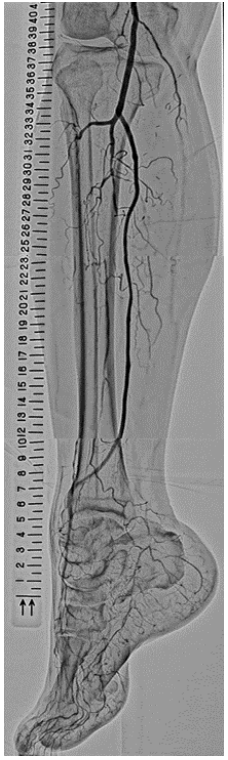
Target sales for year ending March 2020: 57 % increase from year ending March 2017

Healthcare technologies (catheter access via the wrist) that developed in Japan are penetrating markets outside Japan → Take advantage of Shimadzu product strengths cultivated in Japan

- ➢ Reduces exposure, reduces contrast media, and reduces procedure time
- ➢ Guide catheter operations using low-dose fluoroscopy
- ➢ Application software able to clearly show a stent







Medium-Term Management Plan
Strengthening the Diagnostic X-Ray System Business as Foundation of Business

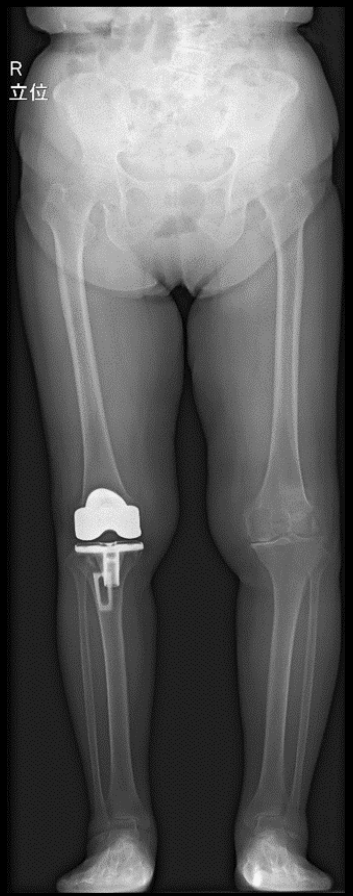
● Continually increase the competitiveness of core technologies and strengthen the foundation od business

Fluoroscopy systems shift from specialized gastrointestinal tract examination models to multipurpose models. X-ray systems need to offer a wide range of solutions such as diagnostic functionality intended for an aging society

Shimadzu Product Strengths

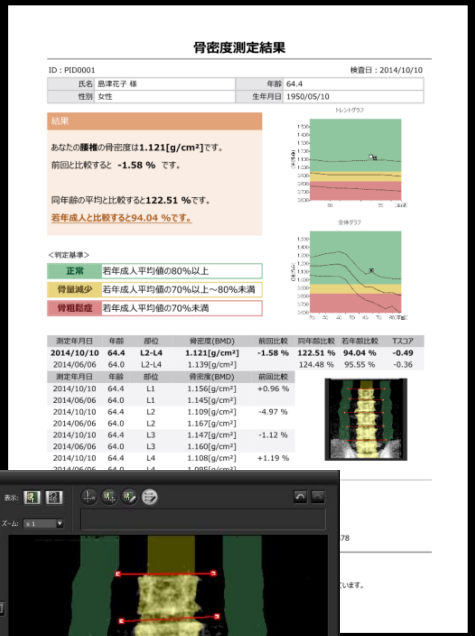
- Fluoroscopy systems available for multiple examination objectives, from general purpose models to high-end models
- Create high added value for clinical applications by offering highly useful functionality for bone examinations and examinations after artificial joint surgery
- A broad product line of radiography systems can freely combine with FPDs
- All systems featured state-of-the-art radiation dose reduction and management functionality before competitors

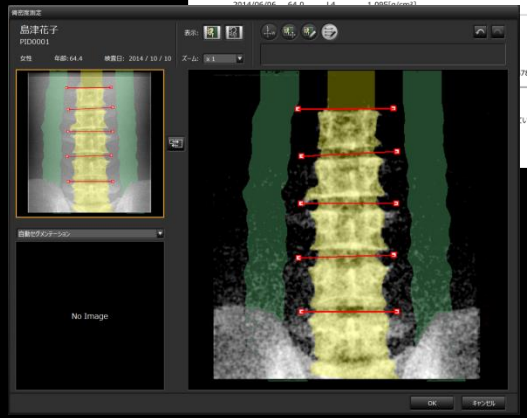
Proprietary Clinical Applications Designed for Visualization and Quantitation



SLOT Radiography

Tomosynthesis Radiography





Smart BMD Bone Density Measurement Function

Medium-Term Management Plan

Offering Women's Healthcare Solutions

- **Realize our wishes for the well-being of women**

- Expand sales to customers in breast surgery departments, plastic surgery departments, or involved with women's clinics
- Shimadzu's proprietary solutions for applications from breast cancer screening and diagnosis to treatment support
- Product line strengthened by adding breast PET system (screening and diagnosis), LIGHTVISION system (procedure support), and GE Healthcare brand digital mammography system (diagnosis) in Japan
- Increase efficiency and decrease space requirements for osteoporosis examinations
- Both fluoroscopic examinations and bone density measurements can be performed using a single fluoroscopy system

Breast PET

Mammography

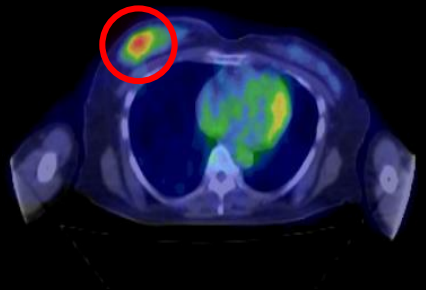
Fluorescence Imaging System

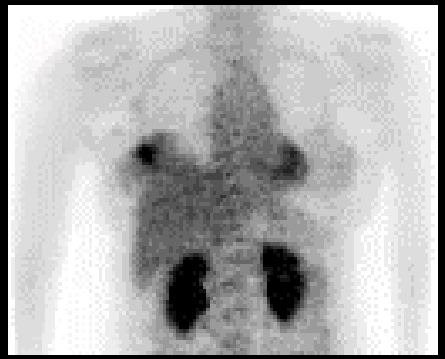
Fluoroscopy System with Bone Density Measurement Function

Imaging Breast Cancer in Dense Breast (Example case: Invasive ductal carcinoma)

Data provided by: Hironori Nishibori M.D., Department of Radiology, and Daisuke Ogawa M.D., Department of Radiological Technology, Kizawa Memorial Hospital

Recognized as a single tumor

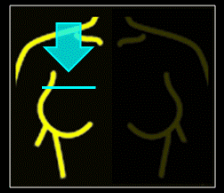




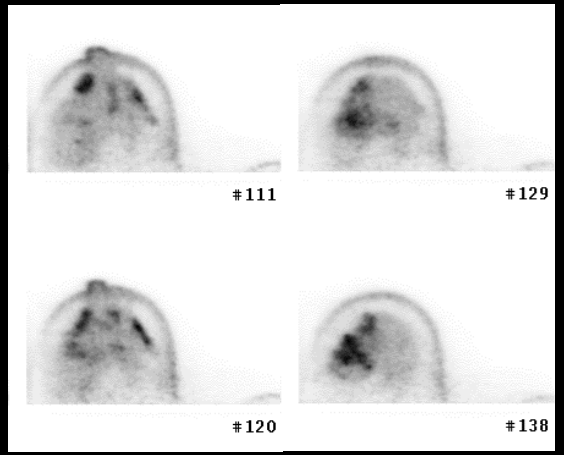
Whole Body PET/CT

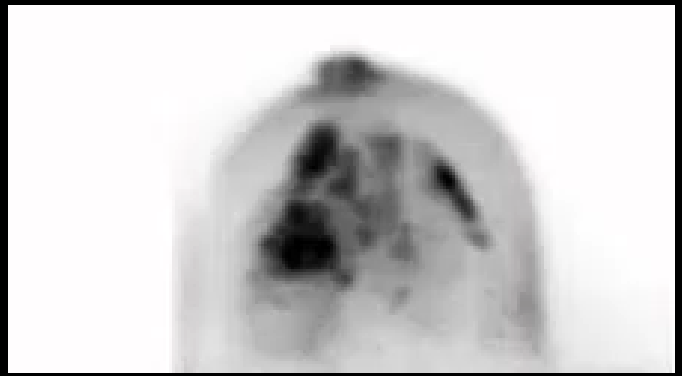
High concentration mammy glands make it difficult to identify tumors

Mammography



High resolution image shows multiple small tumors





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Achieving Additional Growth

Deploying the Advanced Healthcare Business

- **Advanced healthcare business**
  - Create innovative products and services in a wide range of fields related to prevention, diagnostics, treatment, and drug discovery by developing deeper collaborations with university medical schools, hospitals, and other specialized medical institutions

- **R&D and building new business models**
  - Healthcare R&D Center: Scheduled to be completed in January 2019
    Open innovation research facility for combining analytical/measuring and medical technologies
  - Healthcare Business Strategy Unit: Established in April 2017

Illustration of Completed Healthcare R&D Center

- **Deploy business in new medical areas**
  - Significantly increase physician convenience: Quick examinations, surgery support, etc
  - Detect previously undetectable changes: Biomarker, breast cancer examinations, etc
  - Support revolutionary new drug discovery and clinical testing technologies: Drug concentration testing in blood, support for drug discovery, etc.

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Contributing to Society through Science and Technology
Realizing Our Wishes for the Well-being of both Mankind and the Earth

- The outlook for future results indicated in this presentation document is projections of the future based on information available at the time the document was released and includes potential risks and uncertainties. Consequently, due to a wide variety of factors, actual results may differ significantly from the projections indicated in this document.

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