

Medical Systems Business

FUJIFILM Holdings Corporation

June 10, 2021

Forward-looking statements, such as those relating to earnings forecasts and other projections contained in this material, are management's current assumptions and beliefs based on currently available information. Such forward-looking statements are subject to a number of risks, uncertainties, and other factors. Accordingly, actual results may differ materially from those projected due to various factors.

Director, FUJIFILM Holdings Corporation
Director, Executive Vice President,
General Manager of Medical Systems Business Division of FUJIFILM Corporation
Teiichi Goto



Corporate Vice President, FUJIFILM Corporation
Senior Deputy General Manager of Medical Systems Business Division of
FUJIFILM Corporation
Masataka Akiyama



General Manager, Medical Systems Research & Development Center of
FUJIFILM Corporation
Deputy General Manager, Fundamental Laboratories for Artificial Intelligence
Technology of FUJIFILM Holdings Corporation
Toshiyuki Nabeta



- 1. Expansion of Business in the Healthcare Field**
- 2. Medical Systems Business Strategy**
- 3. Growth Strategy with Medical IT**

1. Expansion of Business in the Healthcare Field

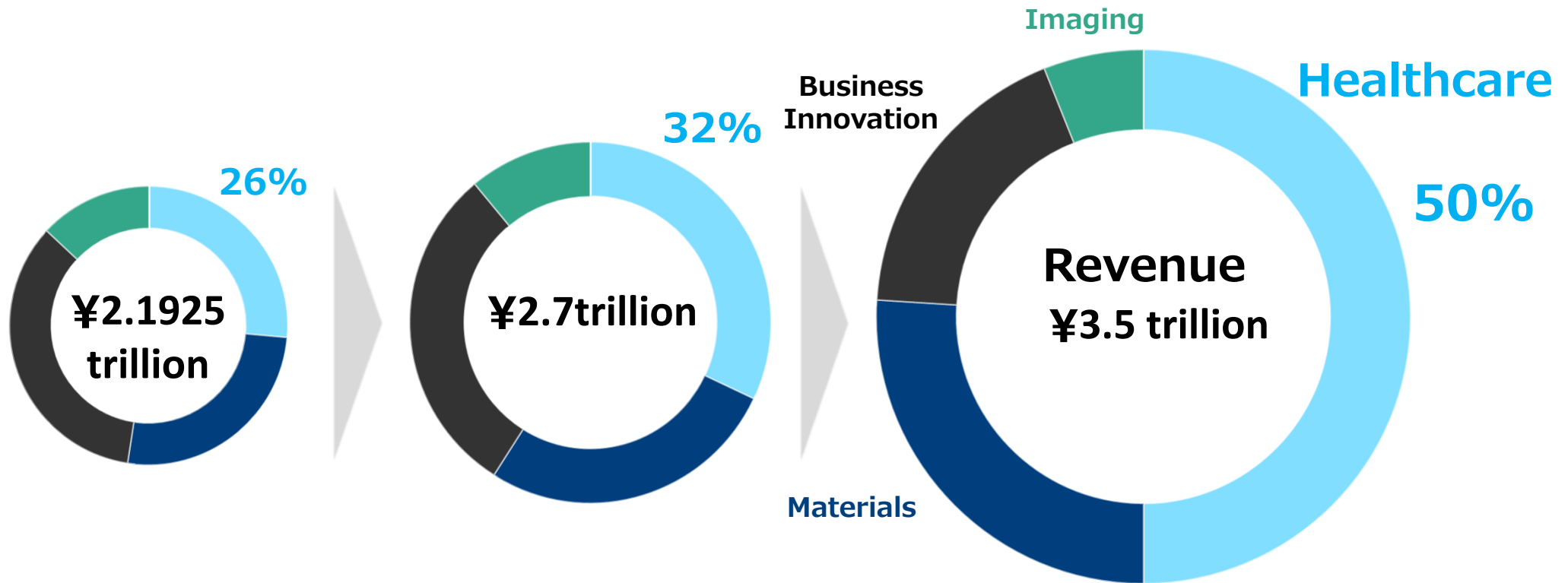
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Teiichi Goto

**FY2020
(Actual)**

**FY2023
(Expected)**

**FY2030
(Targeted)**

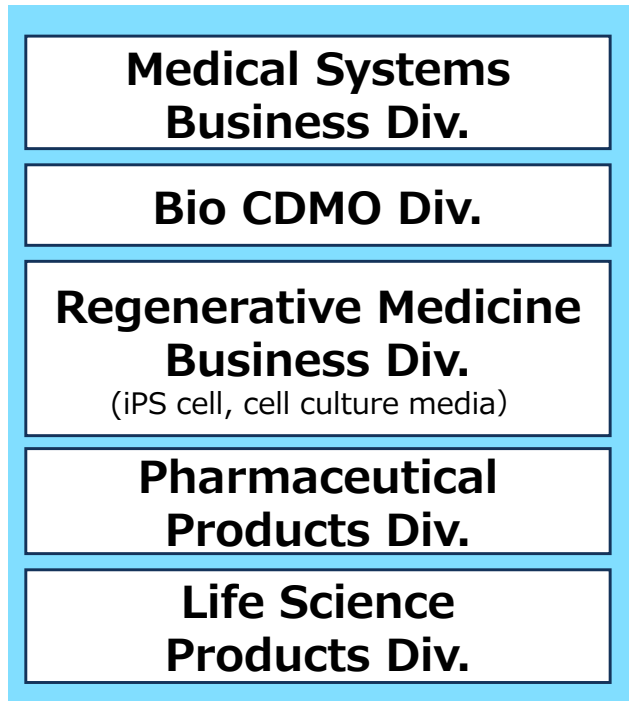


Healthcare is expected to account for 50% of total revenue in FY2030.

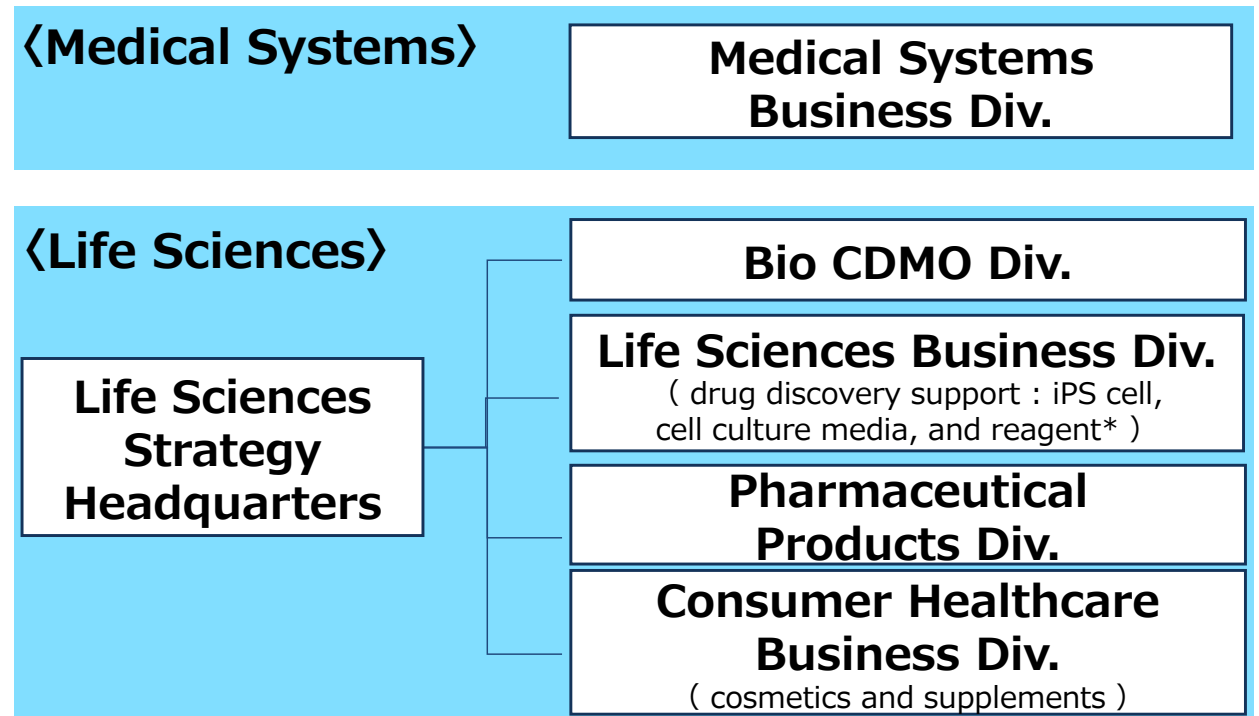
New/future potential	Growth Driver
<ul style="list-style-type: none"> ■ Medical Systems : AI/IT systems ■ Bio CDMO : gene therapeutics CDMO ■ Life Sciences <p style="text-align: right;">etc.</p>	<ul style="list-style-type: none"> ■ Medical Systems : endoscopes, IVD, ultrasound, X-ray equipment ■ Bio CDMO: antibody drug CDMO <p style="text-align: right;">etc.</p>
Non-core	Earnings base (cash cow)

Accelerate growth in the Healthcare field centering on Medical Systems and Bio CDMO.

Former organization

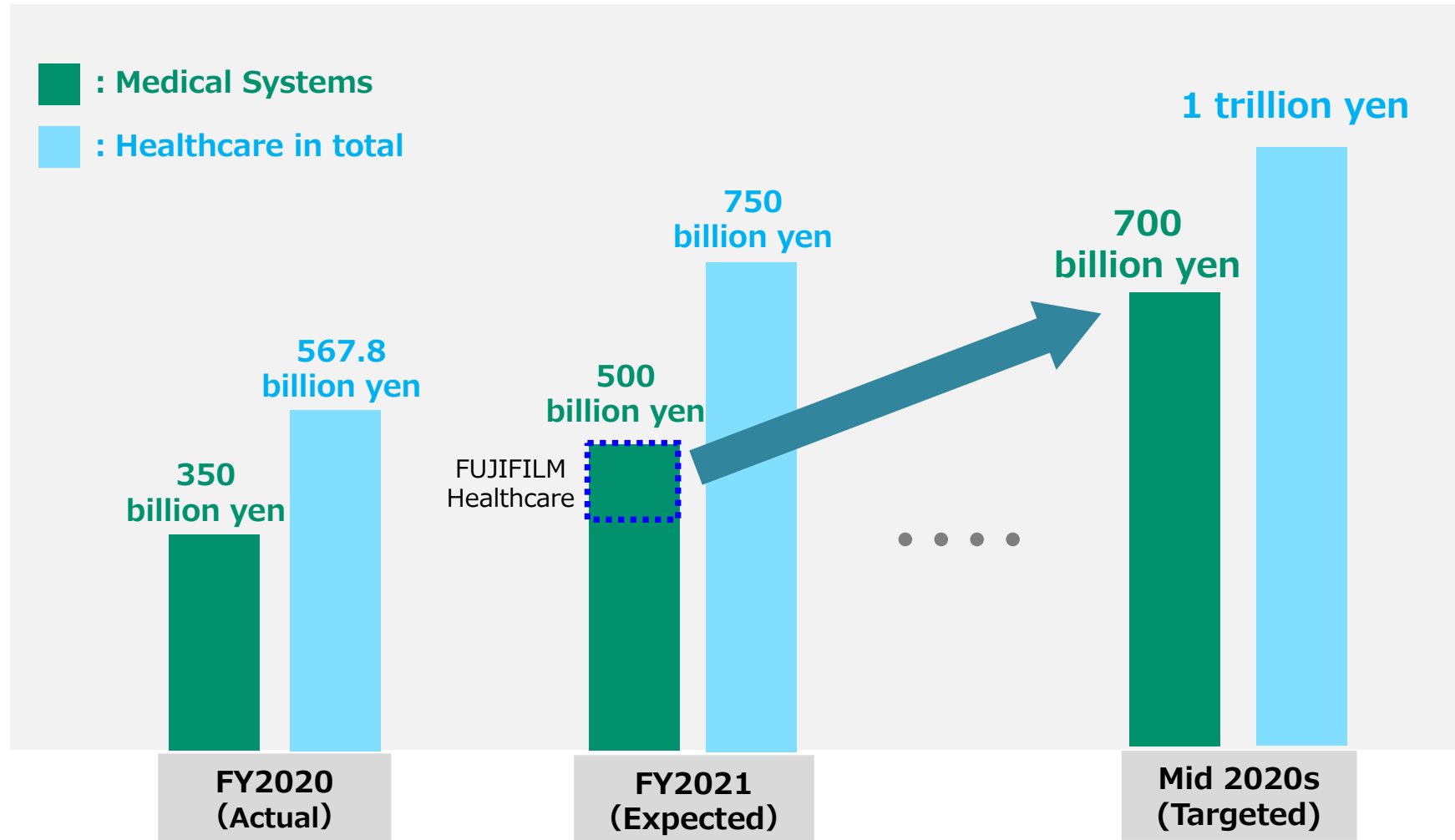


New organization (from April 1, 2021)



* Integrating the life science reagents business within the fine chemical business

**Categorize healthcare into medical systems and Life Sciences.
In life sciences, make CDMO and drug discovery support
priority areas.**



Medical Systems Business is expected to reach 700 billion yen in mid 2020s.

2. Medical Systems Business Strategy

Corporate Vice President, FUJIFILM Corporation
Senior Deputy General Manager of Medical Systems Business Division of
FUJIFILM Corporation

Masataka Akiyama

- Apr. 1988** **Joined FUJIFILM corporation**
- Feb. 2002** **Transferred to FUJIFILM Europe GmbH**
- Jun. 2013** **Returned to FUJIFILM corporation**
General Manager
Modality Solution Division of Medical Systems Business Division
- Jul. 2014** **President & CEO**
FUJIFILM Medical Systems U.S.A., Inc.
- Nov. 2016** **Returned to FUJIFILM corporation**
General Manager
Endoscopy Systems Division of Medical Systems Business Division
- Jun. 2018** **General Manager**
Regenerative Medicine Business Division
- Apr. 2021** **Corporate Vice President**
FUJIFILM Corporation
Senior Deputy General Manager
Medical Systems Business Division



Consolidation of FUJIFILM Healthcare Corporation



Entry into health screening business in emerging countries

2021



Construction of a new smart endoscope manufacturing facility (Sano City, Tochigi Prefecture) 2019

Expansion of medical IT business (acquisition of Yokogawa Medical Solutions)



AI technology brand "REiLI" announced

2018

Entry into endoscopic instruments business (acquisition of medwork)

2017

Entry into diagnostic reagents business (acquisition of Wako Pure Chemical Industries)

2016

Entry into veterinary laboratory tests outsourcing service (acquisition of Monolis)



2015

Entry into in-hospital digital data management and storage Vendor Neutral Archive business (acquisition of TeraMedica)

2012

Entry into portable ultrasound diagnostic equipment business (acquisition of SonoSite)



1999

SYNAPSE medical-use Picture Archiving and Communication System (PACS) placed on sale

1983

Digital X-ray diagnostic imaging system FCR (Fuji Computed Radiography) placed on sale



1971

Rollout of endoscope business

1936

Commercialization of X-ray film



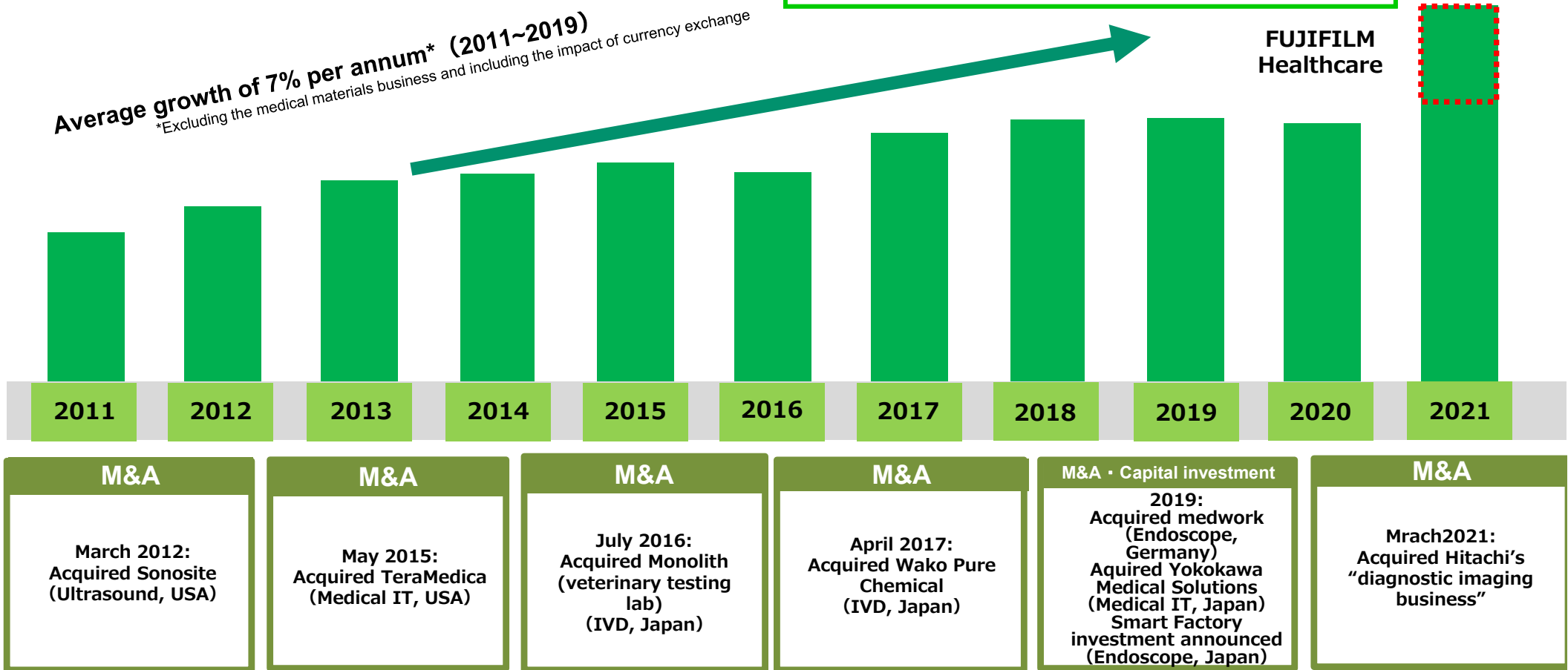
1934

Fuji Photo Film Co., Ltd. established

<Revenue transition of the Medical Systems business>

- ◆ Growth in all business areas, mainly in medical IT and endoscopy
- ◆ Overseas revenue ratio: Approx. 60%

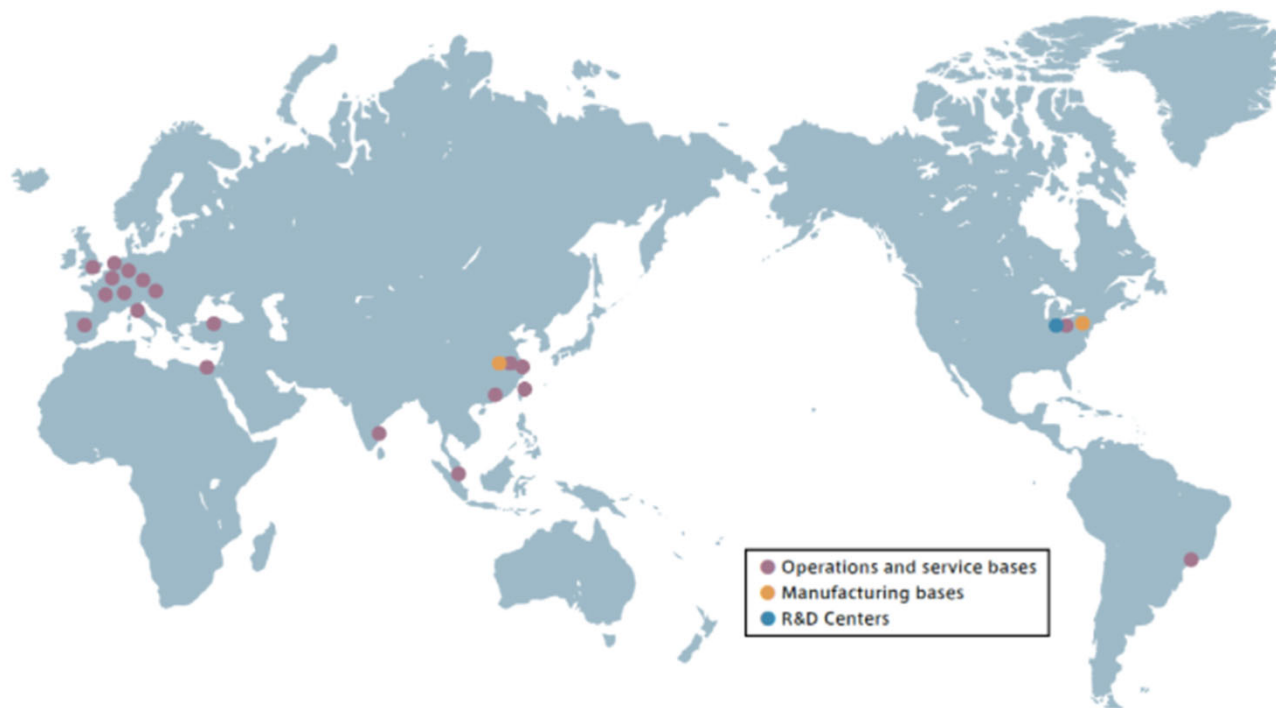
Average growth of 7% per annum* (2011~2019)
*Excluding the medical materials business and including the impact of currency exchange



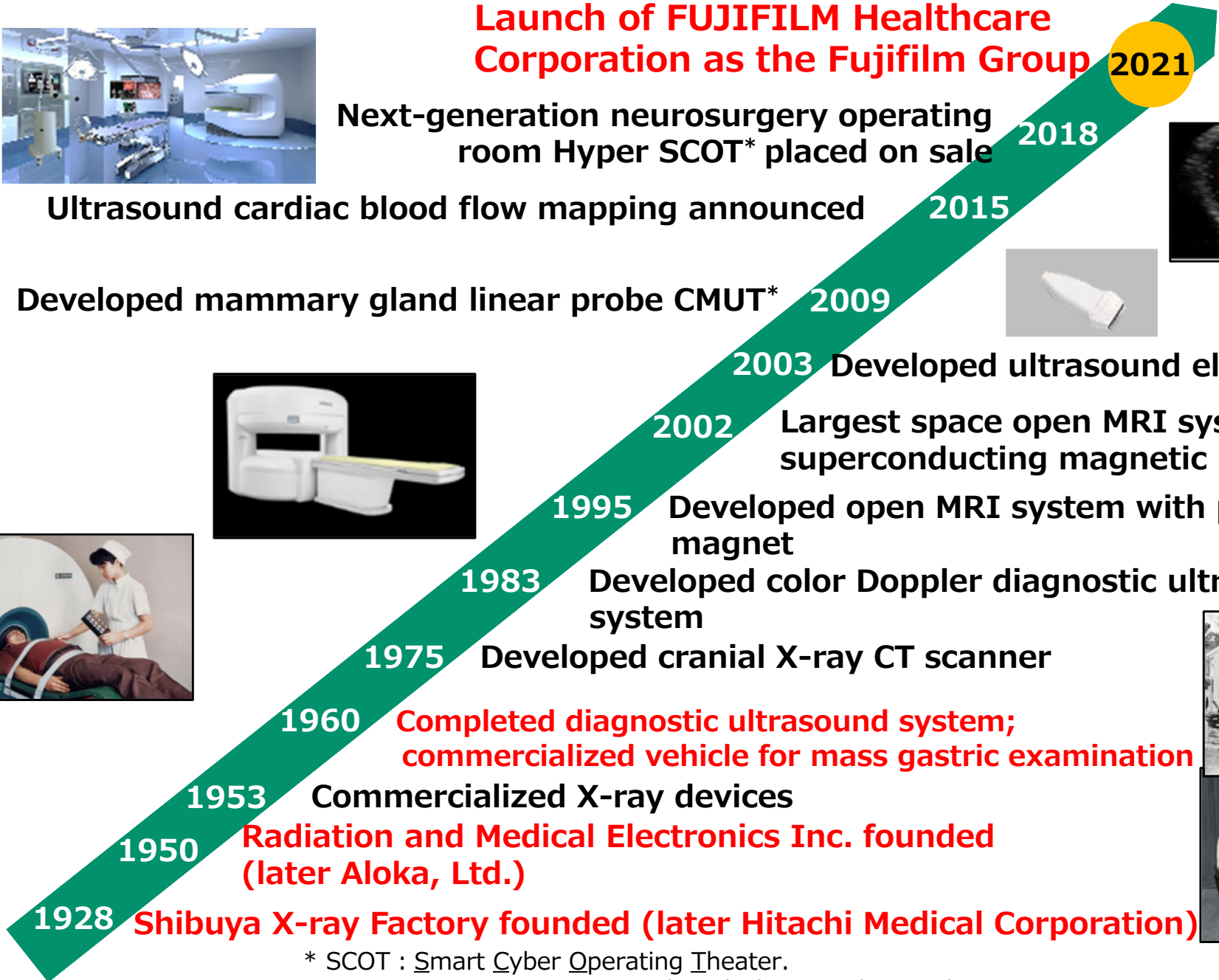
FUJIFILM
Healthcare

Building solid business foundation with M&A and the growth of existing business operations
Core business field that delivers a high rate of revenue growth and operating income rate in excess of 10%

Company name	FUJIFILM Healthcare Corporation
Business content	Diagnostic imaging system (Diagnostic Ultrasound Systems, MRI, CT, X-ray Diagnostic System) , R&D / manufacturing / sales / maintenance services for medical IT, etc.
Representative	Chairman and Chief Executive Officer : Teiichi Goto President and Chief Operating Officer : Akio Yamamoto



- Number of group companies : 26 companies (domestic: 3, Overseas: 23)
- Major domestic bases
Sales / service bases 58 locations
Manufacturing bases 2 locations
R&D bases 2 locations



1928 **Shibuya X-ray Factory founded (later Hitachi Medical Corporation)**

1950 **Radiation and Medical Electronics Inc. founded (later Aloka, Ltd.)**

1953 **Commercialized X-ray devices**

1960 **Completed diagnostic ultrasound system; commercialized vehicle for mass gastric examination**

1975 **Developed cranial X-ray CT scanner**

1983 **Developed color Doppler diagnostic ultrasound system**

1995 **Developed open MRI system with permanent magnet**

2002 **Largest space open MRI system with superconducting magnetic placed on sale**

2003 **Developed ultrasound elastography**

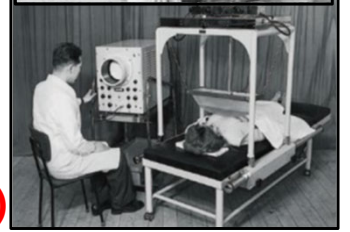
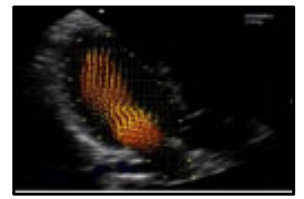
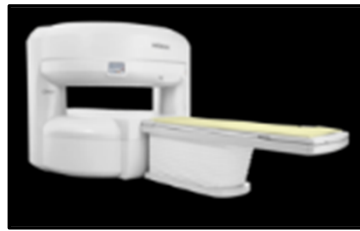
Developed mammary gland linear probe CMUT*

Ultrasound cardiac blood flow mapping announced

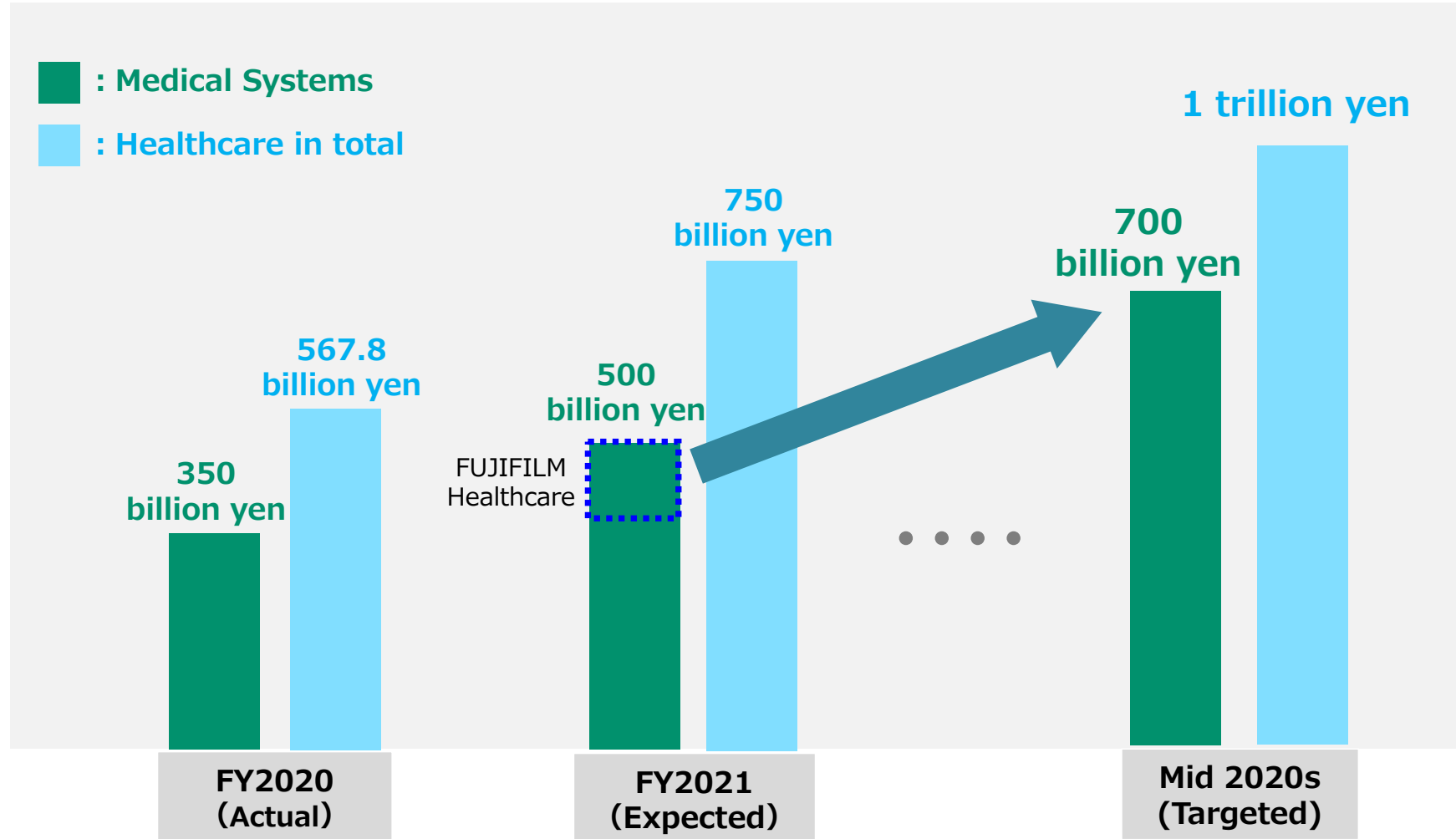
Next-generation neurosurgery operating room Hyper SCOT* placed on sale

Launch of FUJIFILM Healthcare Corporation as the Fujifilm Group

2021




* SCOT : Smart Cyper Operating Theater.
CMUT : Capacitive Micro-machined Ultrasound Transducer



Medical Systems Business is expected to reach 700 billion yen in mid 2020s.

- Accelerate development of products utilizing AI technologies with the AI platform “REiLI” at the core, and grow the earnings of the AI/IT solutions business.

- 
- Expand sales globally through mutual use of Fujifilm and FUJIFILM Healthcare customer bases and sales channels (FF×FHC synergy).

- Expand the IVD (In-vitro Diagnostics) business overseas.

- Capture important hospitals for the endoscopy business; expand the digital diagnostics support solutions business.

- Develop products that contribute to preventing the spread of COVID-19 and other infectious diseases.

Build Fujifilm’s AI and IT technologies into its wide-ranging product lineup, create new values, and contribute to solving social problems.

Area	Diagnostic Imaging Systems										Medical IT		IVD
	CT	MRI	Fluoroscopy System	General radiography System	Mammography	Mobile X-ray System	DR /CR	Bone Densitometry	U/S	Endoscopy	HER /HIS	PACS	
FUJIFILM Healthcare													
FUJIFILM													



Strengths of the FF+FHC portfolio that competitors lack

- DR panels: #1 market share in Japan (*Yano Research Institute)
- CR: #1 global market share (*Azure)
- Flexible endoscopes:
One and only unique combination with other modalities
- PACS: #1 global market share (*Signify Research report)

Strengths of PACS, image processing technologies, and AI technologies

Advanced image processing and software technologies



Diagnostic support AI

Work flow AI

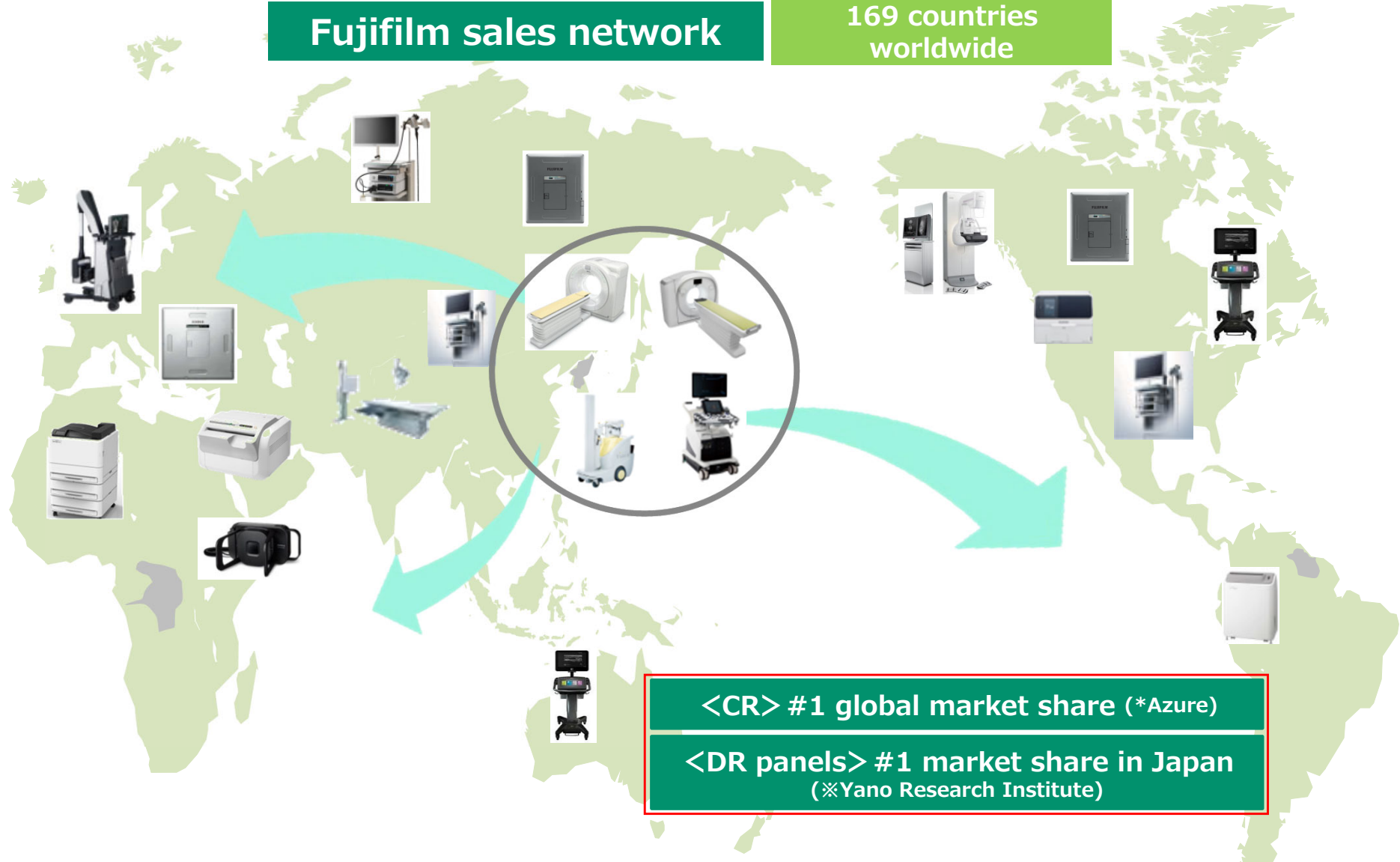
Image recognition AI

powered by REiLI

Generate great synergy by combining Fujifilm's technological and other strengths with a mutually complementary product portfolio.

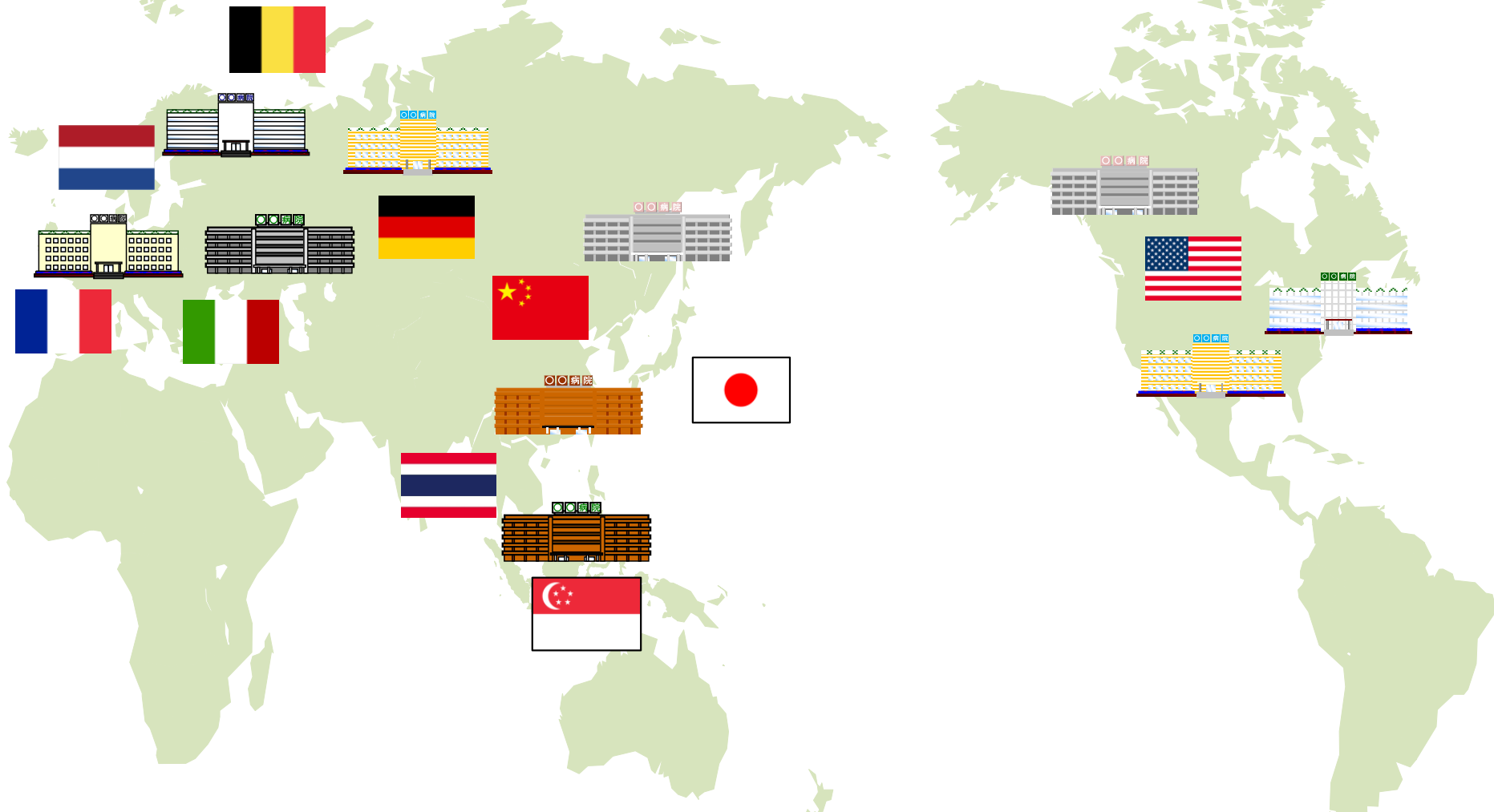
Fujifilm sales network

169 countries
worldwide



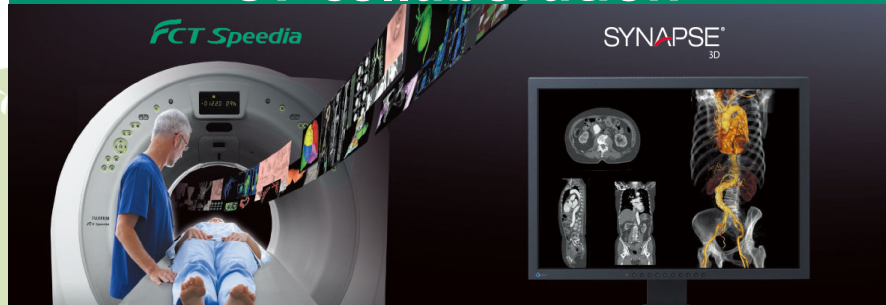
**Expand sales of FHC products using Fujifilm's
wide-ranging sales network.**

Global Clinical Study Network



Leverage strong relations with KOLs and institutions built up through endoscopy business, and expand sales worldwide combining endoscopy + radiological equipment.

Performance of Fujifilm/FHC CT collaboration



Rollout worldwide



Also provided on vehicles



Expand CT product sales worldwide utilizing sales performance and experience in Europe and the Middle East.

Spread Japanese-type health screening services, which resolve medical issues via early detection of major diseases, worldwide.

NURA
One of the best kept secrets of Japanese long life is full body screening.
Give your family the protection of long life.
FROM FUJIFILM | Dr. Ruliyi, Akiba

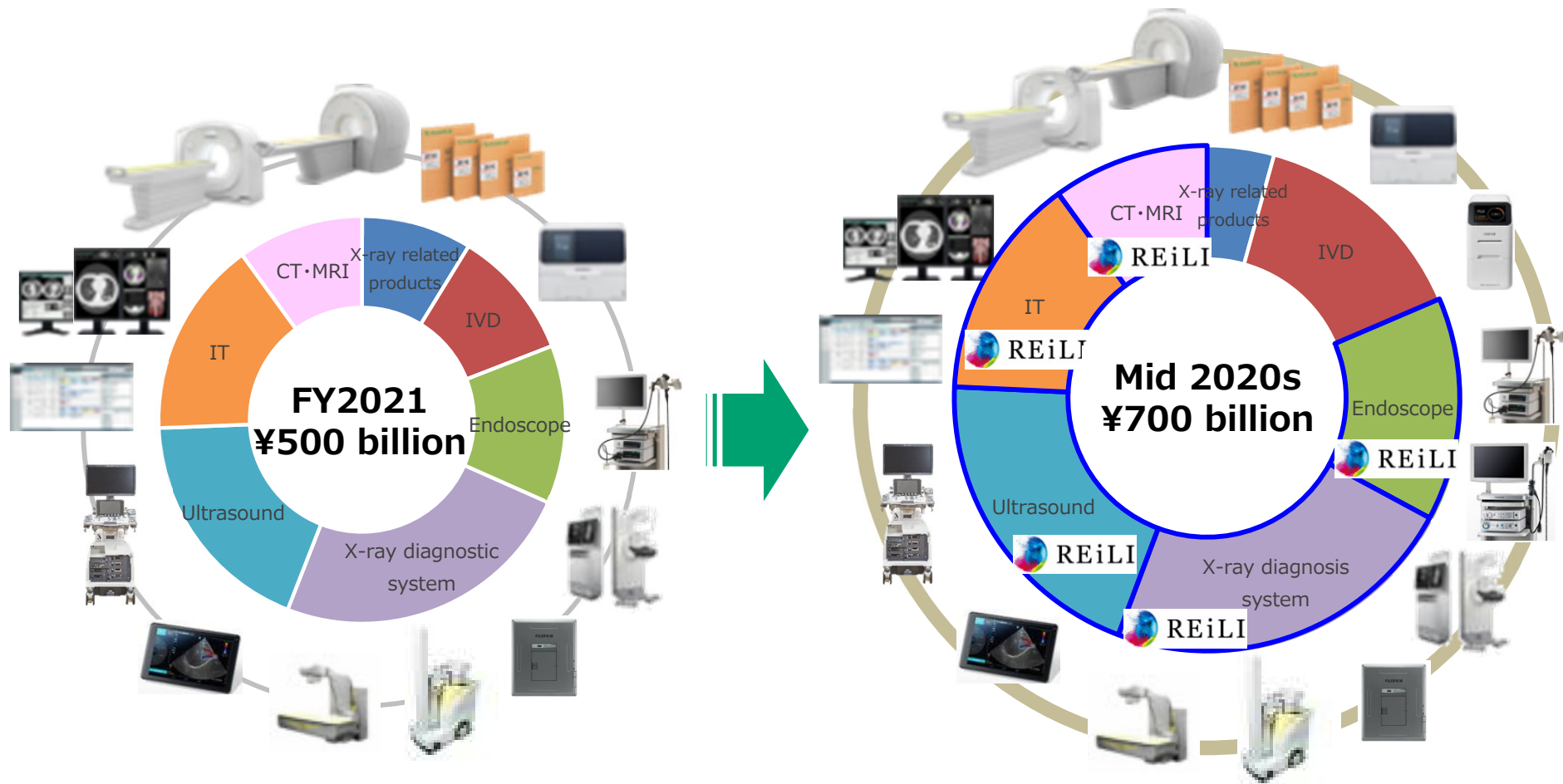
NURA
NURA SCREENING FOR SICKING HEALTH

NURA
Sustained Health with Active AI Screening

Opened NURA in Bangalore, India as the first project in emerging countries (February 2021).

Contribute to improving access to medical services and boosting the early disease detection rate in medically developing countries.

Become a high-quality health screening services provider using FF+FHC diagnostic imaging equipment and medical IT systems that have functions to support doctors diagnoses using AI technologies.



Grow the whole business and achieve sales of ¥700 billion in the mid 2020s by accelerating the linkage between the FF+FHC unique product portfolio and AI/image processing technologies.

3. Growth Strategy with Medical IT

General Manager, Medical Systems Research & Development Center of
FUJIFILM Corporation
Deputy General Manager, Fundamental Laboratories for Artificial Intelligence
Technology of FUJIFILM Holdings Corporation

Toshiyuki Nabeta



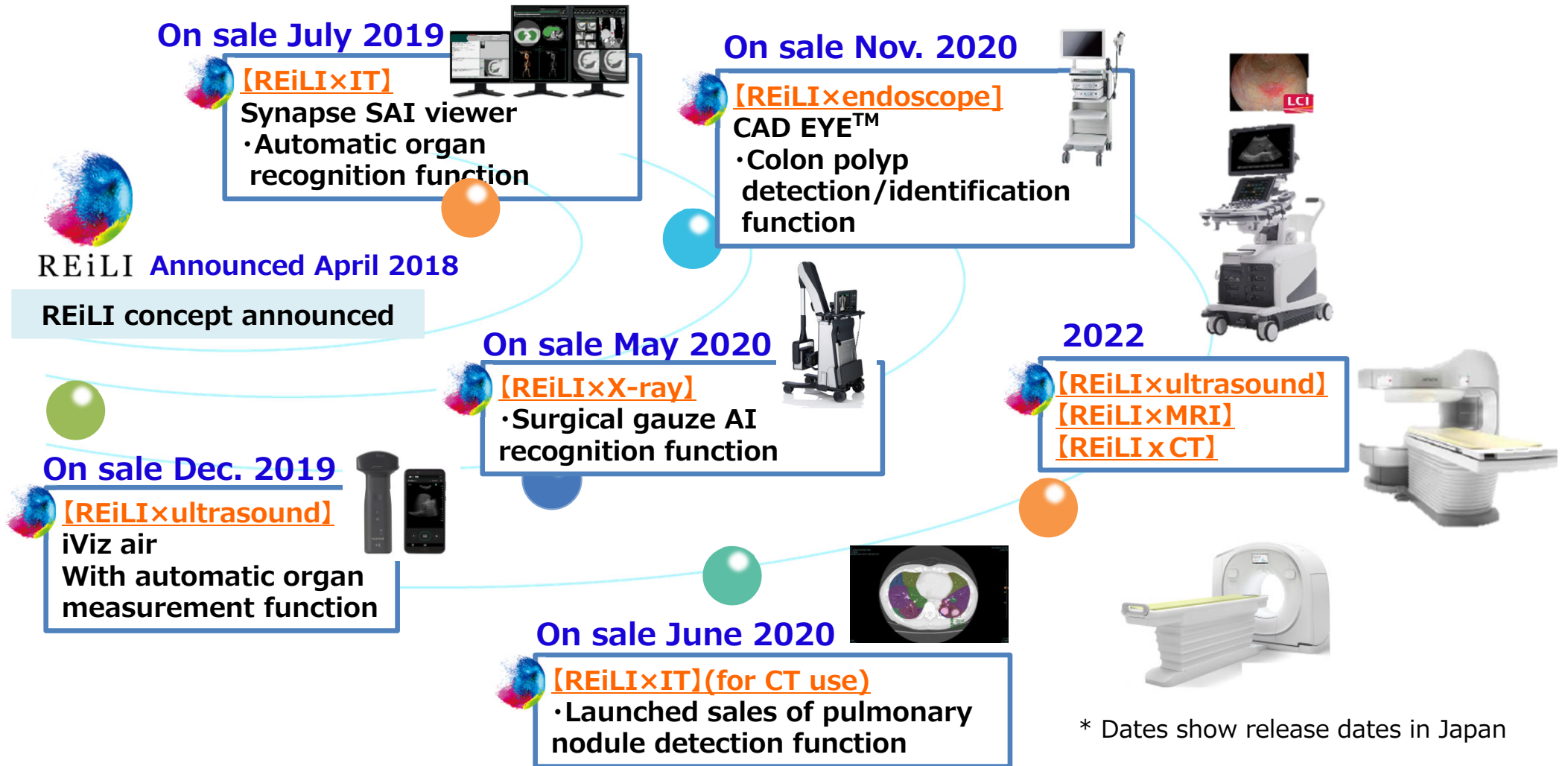
- Accelerate development of products utilizing AI technologies with the AI platform “REiLI” at the core, and grow the earnings of the AI/IT solutions business.
- Expand sales globally through mutual use of Fujifilm and FUJIFILM Healthcare customer bases and sales channels (FF×FHC synergy).
- Expand the IVD (In-vitro Diagnostics) business overseas.
- Capture important hospitals for the endoscopy business; expand the digital diagnostics support solutions business.
- Develop products that contribute to preventing the spread of COVID-19 and other infectious diseases.

Build Fujifilm’s AI and IT technologies into a wide-ranging product lineup, create new value, and contribute to the resolution of social problems.

1. Fujifilm's Future Vision

2. Resolution of Medical Issues Using Fujifilm's Medical IT

3. Fujifilm's Medical AI Strengths



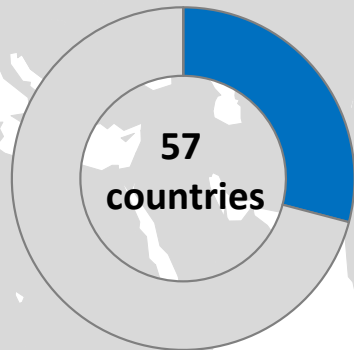
Since the REiLI concept was announced in April 2018, AI technologies have been incorporated into Fujifilm's distinctive modalities in rapid succession. We will continue to incorporate AI technologies into modalities newly added to the company's assets.



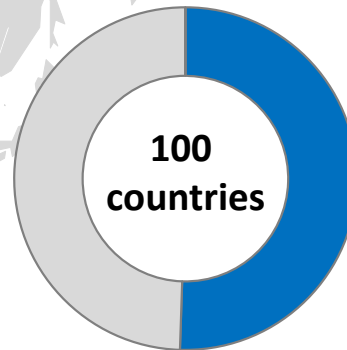
Fujifilm is deploying medical AI in more than 50 countries and working for expansion. The company launched health screening in India as a service providing AI technologies directly to users, and will now rollout health screening centers using AI technologies in other emerging countries.



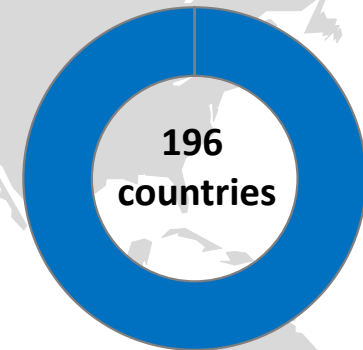
Achieve improved access to medicine and contribute to resolving social issues by providing the world, including emerging countries, with industry-leading medical diagnostic imaging AI technologies, Fujifilm's PACS "SYNAPSE" which has the top global market share, and a wide-ranging lineup of advanced medical equipment and services that only Fujifilm can provide.



FY2019 result



FY2023 target



FY2030 target

Improve medical accessibility by introducing our AI-driven medical products and services to all countries and regions by FY2030.

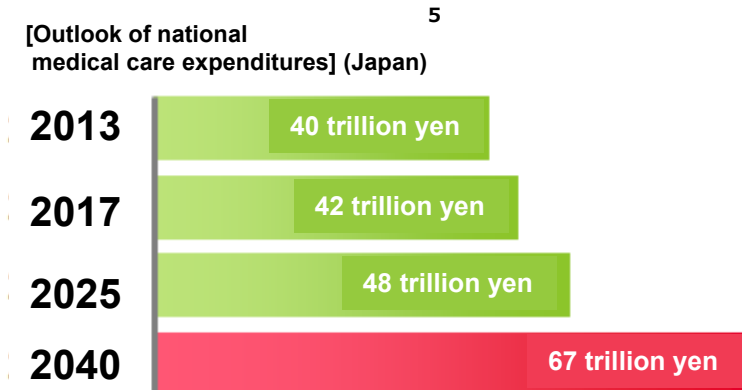
※PACS : Picture Archiving and Communication System



2. Resolution of Medical Issues Using Fujifilm's Medical IT

Population growth / aging **increasing medical expenditures**

- The average life expectancy of WHO member states in 2016 was **72.4 years longer** than 2008. (84 for Japan, 81 for UK, 79 for USA, 76 for China and 69 for India)¹
- The average annual increase of medical expenditures (2014 – 2018): Western Europe **2.4%**, North America **4.9%**, Asia and Australia **8.1%**, Middle East and Africa **8.7%**²



Regional disparity in medical services

- Industrialized nations account for **77%** of the world’s medical expenditures. In contrast, the ratio of developing countries is expected to grow from **23%** in 2014 to **32%** in 2020.³

Healthcare worker shortages and **tough working conditions** (supply – demand gap)

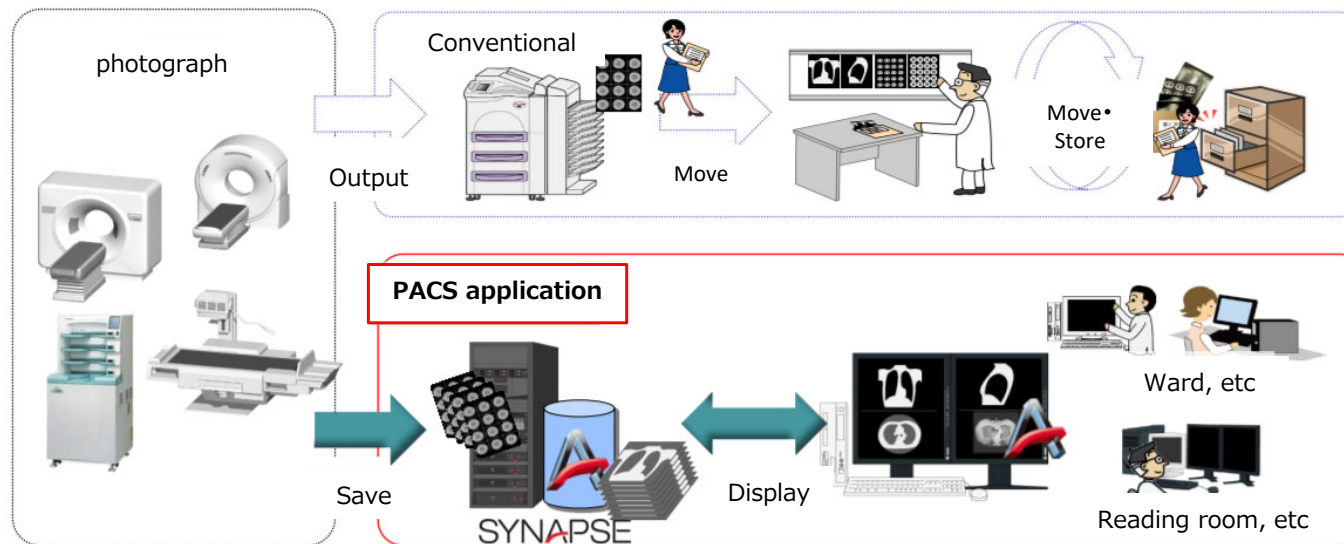
- There is a global healthcare worker shortfall of **17 million** (including **11 million** for Africa and Southeast Asia alone)⁴

Source 1. Life expectancy data, World Health Organization, <http://apps.who.int/gho/data/node.main.688?lang=en>
 2. 2015 Global life sciences outlook: Adapting in an era of transformation. Deloitte DTTL, 2014 3. Informa Plc Market Line Extracted October 2014
 4. Health workers density and distribution, World Health Organization 5. “FY2017 Medical Expenditure Trends” and “Future Outlook of Social Security for 2040” by the Research Section, Health Insurance Bureau, Ministry of Health, Labor and Welfare

Increase of social security expenditures (including medical expenditures) and labor shortages have become pressing global issues. Mitigating public medical spending by shifting the focus from “treatment after manifestation of severe symptoms” to “prevention, early diagnosis and early treatment”

Picture Archiving and Communication System (PACS)

Picture
Archiving
Communication
System



Copyright © 2015 FUJIFILM Co.,

Picture Archiving and Communication System (PACS) “SYNAPSE”

SYNAPSE

SYNAPSE VNA

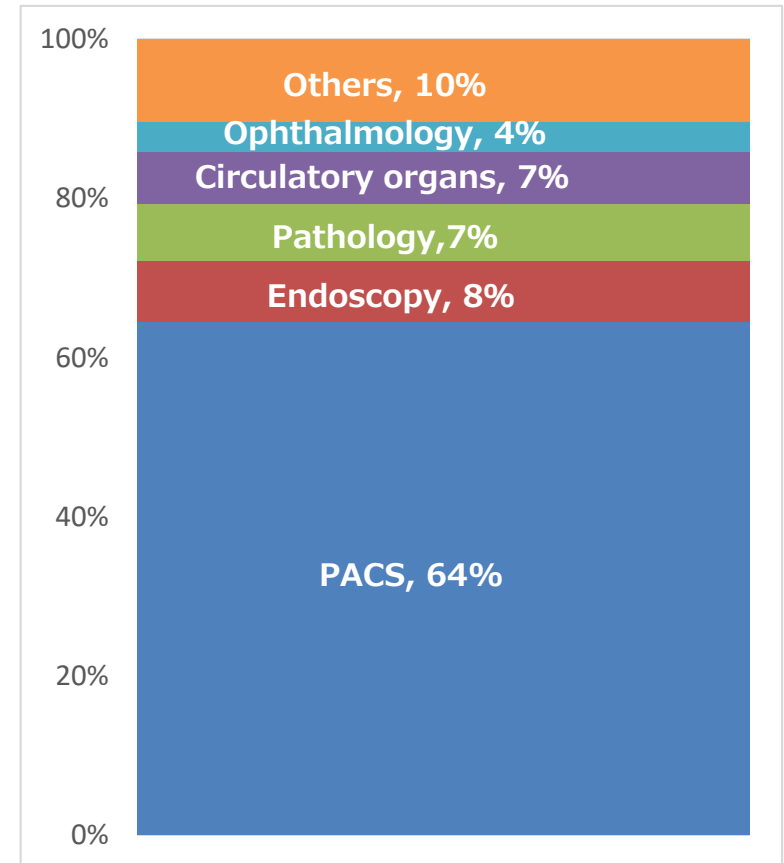
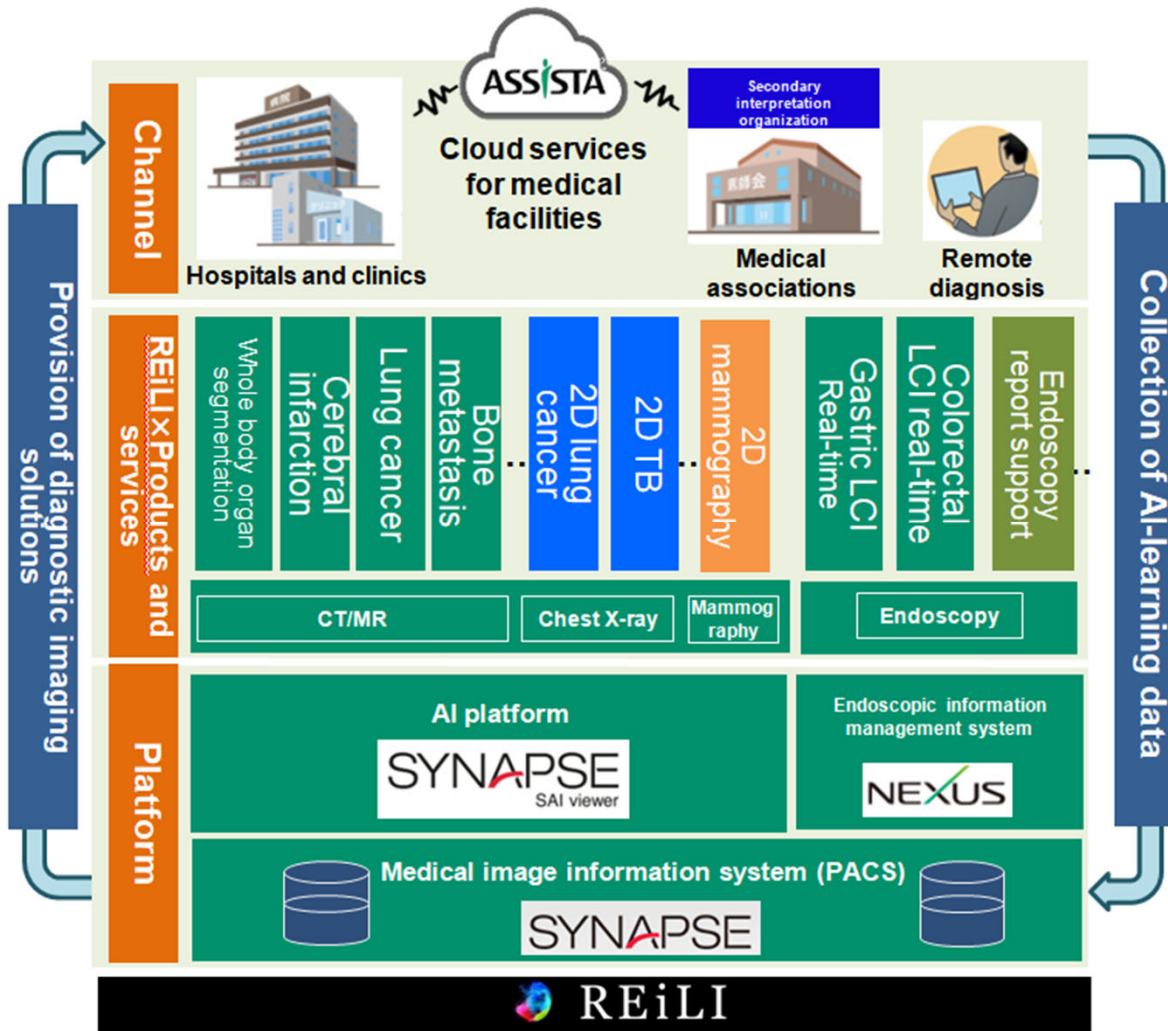


ボリュームアナライザー
SYNAPSE VINCENT



Increasing the utilization of SYNAPSE and NEXUS as image communication platform, we assist to mitigate physician work.

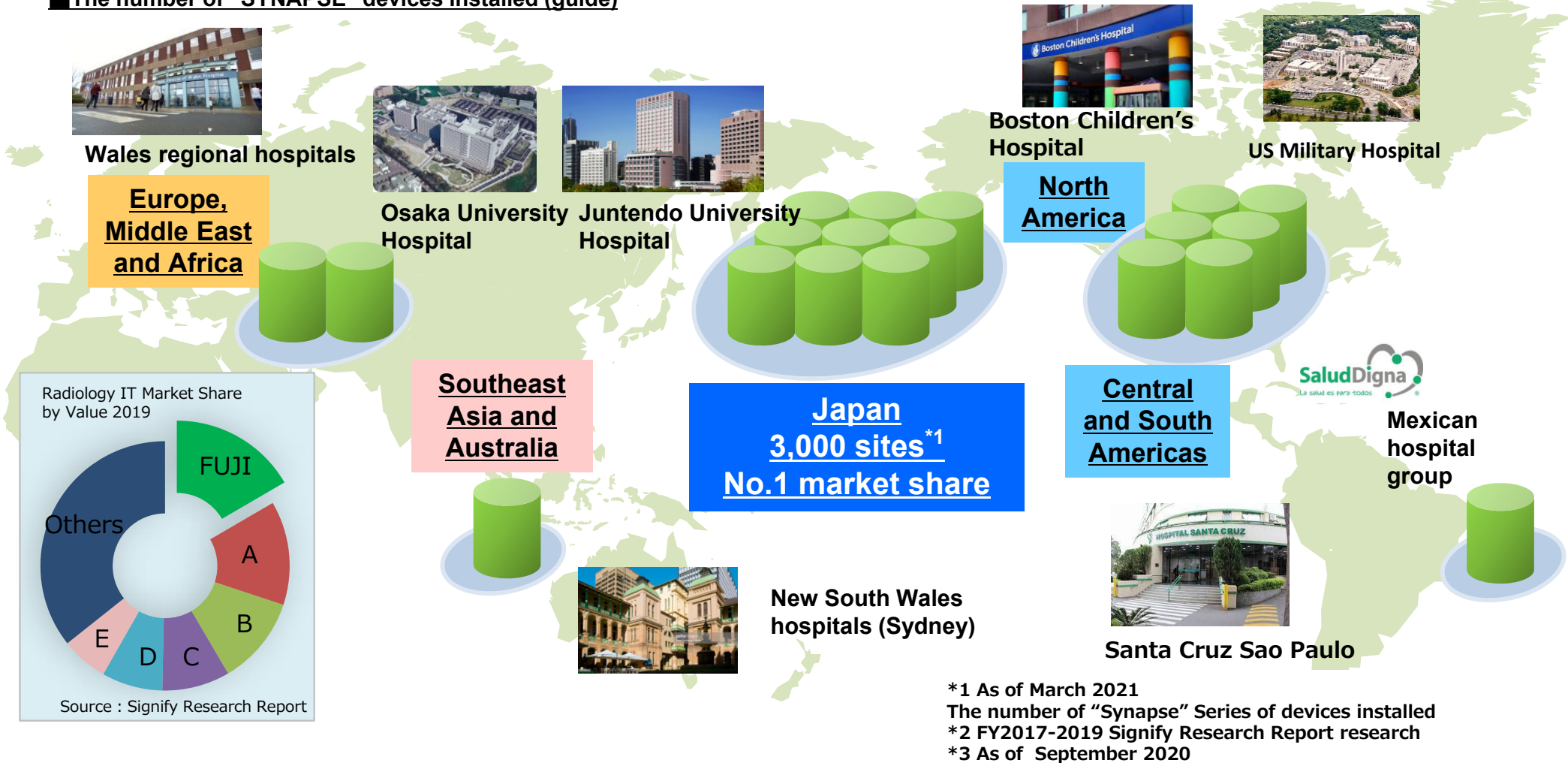
Medical IT Future Image



Typical example of data composite in a hospital.

The amount of data handled by PACS is the greatest in the in-hospital IT system.
 ⇒ PACS is a high-impact system from the perspective of in-hospital diagnostic information management.

■ The number of "SYNAPSE" devices installed (guide)

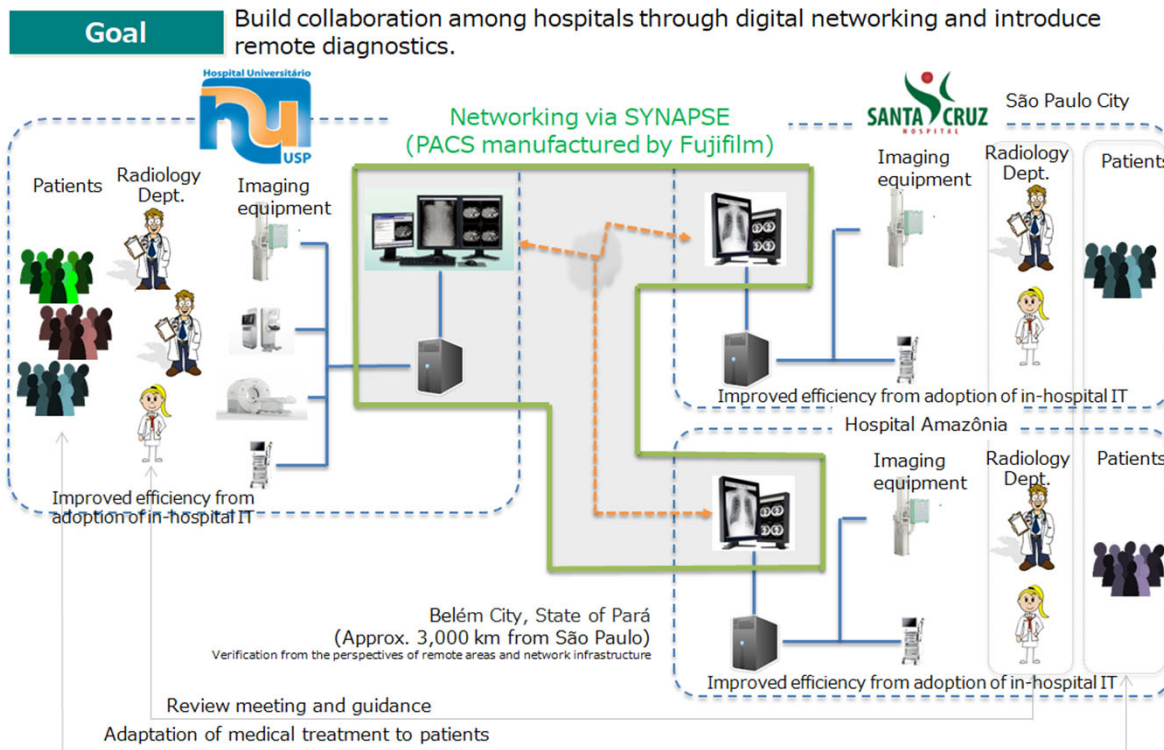


"SYNAPSE" is used at 5,500 sites worldwide*¹, getting remarkable feedbacks from key hospitals in various areas and captured the world's top market share*².

"NEXUS" has the largest market share among advanced treatment hospitals in Japan*³.

Example: Networking of hospitals and introduction of remote diagnosis in Brazil

Introduction of SYNAPSE to Brazil's top university Universidade de São Paulo and regional hospitals



Medical issues and needs in Brazil

- Increase in non-infectious diseases
→ **Early detection by diagnostic imaging**
- Diagnosis using film
→ **Rationalization of workflow**
- Cities scattered throughout a vast national territory, medical disparity between cities and regions → **Remote medicine**

Value of Fujifilm's PACS

- **Improved diagnostics imaging capabilities:** Reference to past images, etc.
- **Speedup and rationalization of diagnosis workflow:** Quick diagnosis after imaging, reduction of developing and travel costs
- **Improved access to sophisticated treatment at regional hospitals:** Construction of a network among hospitals

**Support the provision of high-quality diagnoses in areas with limited medical resources.
Contribute to the elimination of medical disparities by packaging the business model and deploying it worldwide.**

3. Fujifilm's Medical AI Strengths

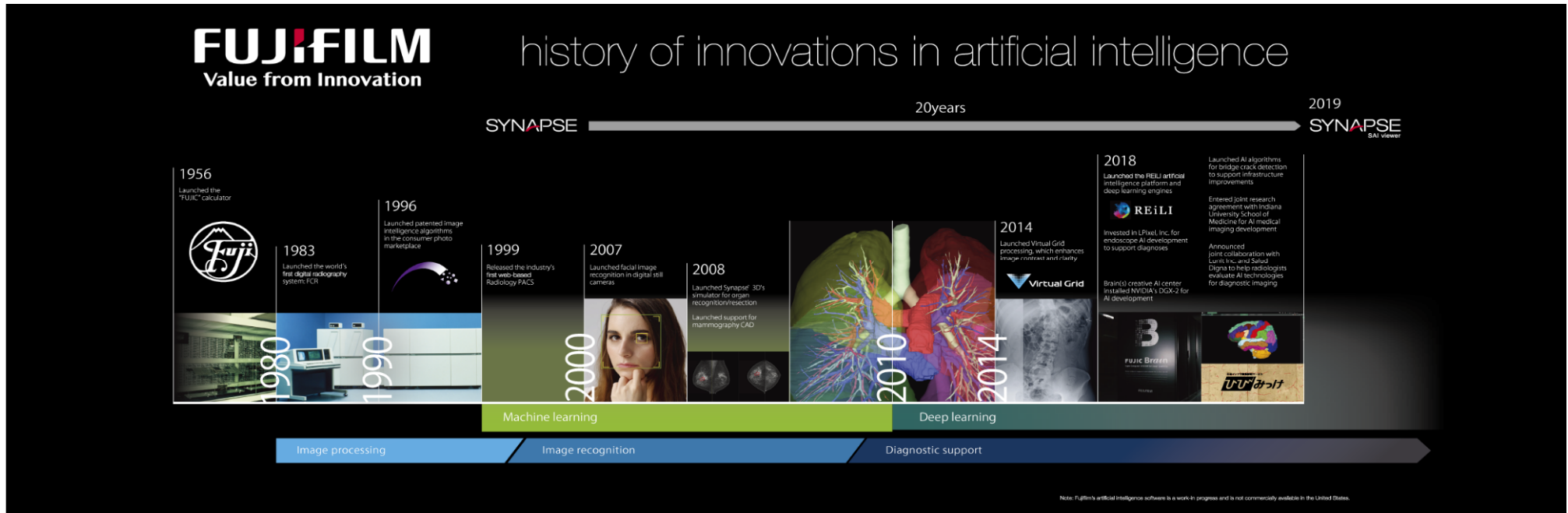


1 Imaging technology

• "Compilation of technological assets" combining image technologies fostered in various fields with digital imaging technologies

2 Development structure toward global deployment

• Flexible product rollout to meet regional needs starting from development in the US in the late 1990s



3 Fusion of diverse IT and AI human resources

- Took the lead in commercializing medical IT products including CR (1983-), PACS (1999-) and 3D (2008-); trained software development engineers in-house from early on.
- Trained and accumulated human resources with diverse backgrounds in addition to computer science, including persons with experience developing digital circuits (physics, electrical), etc.
- Established next-generation medical AI centers. Training AI & ICT human resources who learn state-of-the-art AI technologies and lead next-generation medical AI research.

Achieved No. 1 global share over a long time, supported by 80+ year history of imaging technology, a development structure toward global deployment, and the fusion of diverse human resources in IT and AI fields.

Fujifilm's AI Foundations

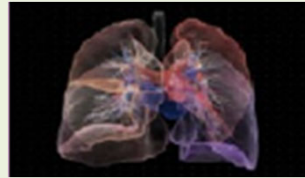


Image AI



Language AI



Analysis AI



Site-specific data that can be accessed using IT



Global and domestic No.1 market share PACS

SYNAPSE®



3D image analysis system

ボリュウムアナライザー
SYNAPSE **VINCENT**



Endoscopy information system

NEXUS

Equipment-specific data



Open MRI



Endoscope LCI



CT



DR

Further enhance data access to medical device, uniquely done through both hardware and IT.

- “Data quality and learning method” are important in improving AI accuracy.
Merely having a large volume of training data would not improve AI performance unless the data is of high quality.

Quality of training image data	Unclear image		Clear image	
	Volume of training data	210,000 cases		20,000 cases
Sensitivity	94.9%		94.9%	
Specificity	20%		87.5%	

Misidentifying abnormality in 80% of healthy subjects!

※ Sensitivity = Ratio of determining a positive case as being positive. Specificity = Ratio of determining a negative case as being negative

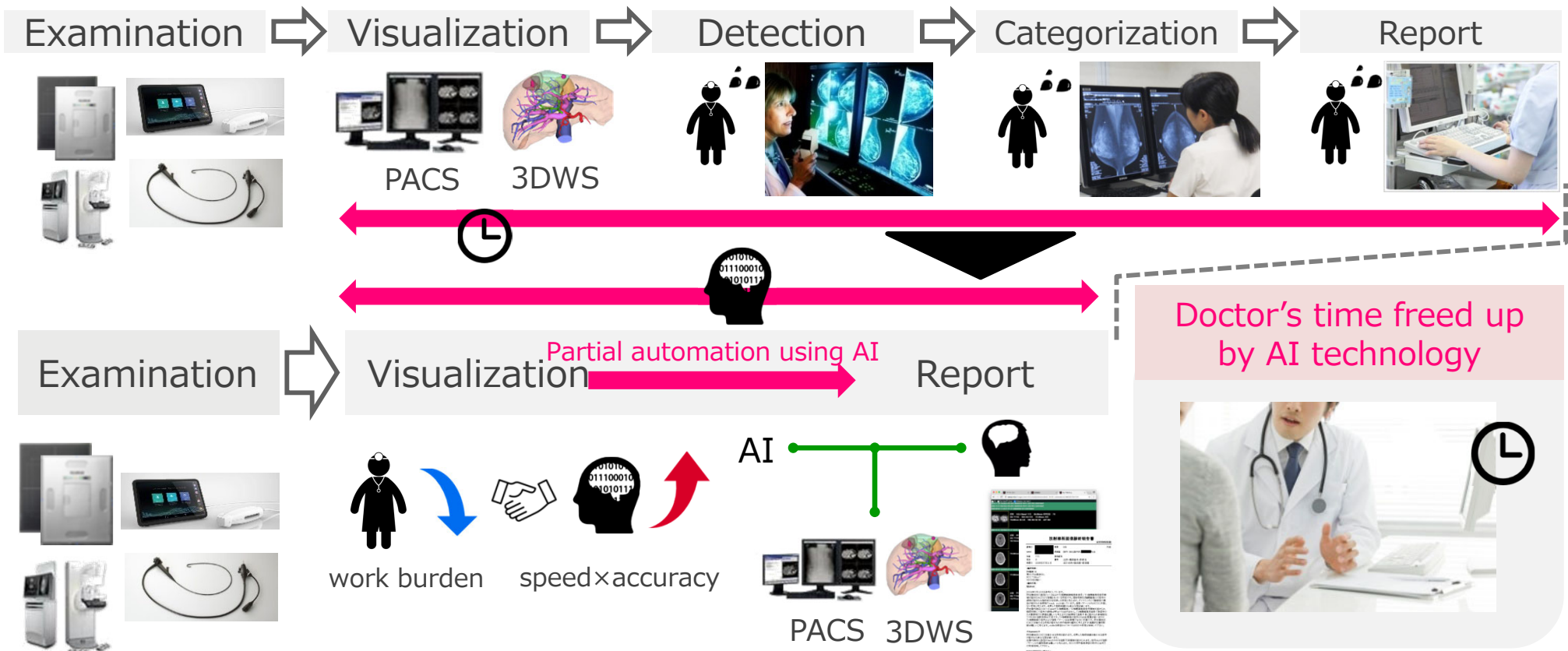
High-quality images are needed for high AI accuracy

No. of CT scans and radiologists in Japan

2007	2018	(Japan)
CT scans per year		
17 million	30 million	+72%
No. of radiologists		
4,810	6,813	+42%

The number of radiologists is insufficient versus the growing number of CT/MRI scans and images

Source: Ministry of Health, Labour and Welfare - Statistics of Medical Care Activities in Public Health Insurance; Survey of Physicians, Dentists, and Pharmacists



Overall support with AI technology for interpretation of examination images, diagnosis, and report preparation. Aims to free up time for real diagnostics by reducing the burden on doctors.

Approach **1**

Organ segmentation

Recognition of anatomical structures

Accurately extracts the various organs and tissues in medical images. Enables steady extraction in cases with disorders that were difficult to extract with existing technology.

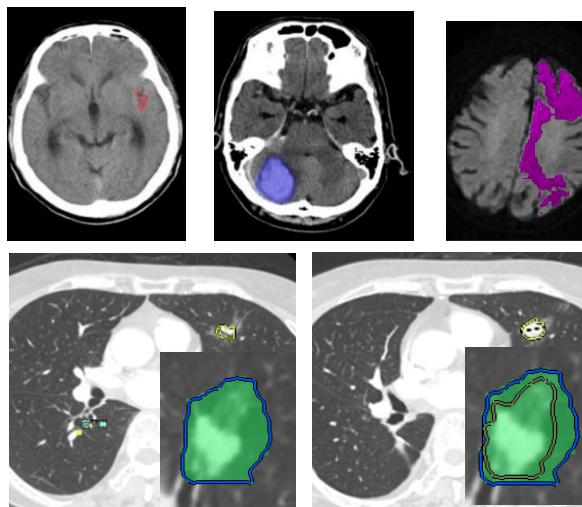


Approach **2**

Computer-aided diagnosis

Lesion detection and measurement support

We are advancing the development of computer-aided detection (CAD) technologies to discover disorders such as tumors, sites of infarction and constriction, and technologies to quantitatively express the patient's present condition.

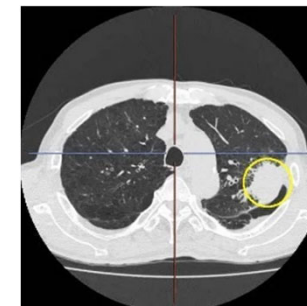


Approach **3**

Rationalization of workflow

Report preparation support

We support the preparation of image interpretation reports, which are the final output of radiologists, fully using organ extraction technology, CAD technology, and quantification technology.



An irregularly-shaped tumor with spicula, with a maximum diameter of 4.2cm, is recognized under the left pulmonary pleura. It is touching the thoracic wall, but no infiltration is recognized ...

March 2019
Approved under
the PMD Act.

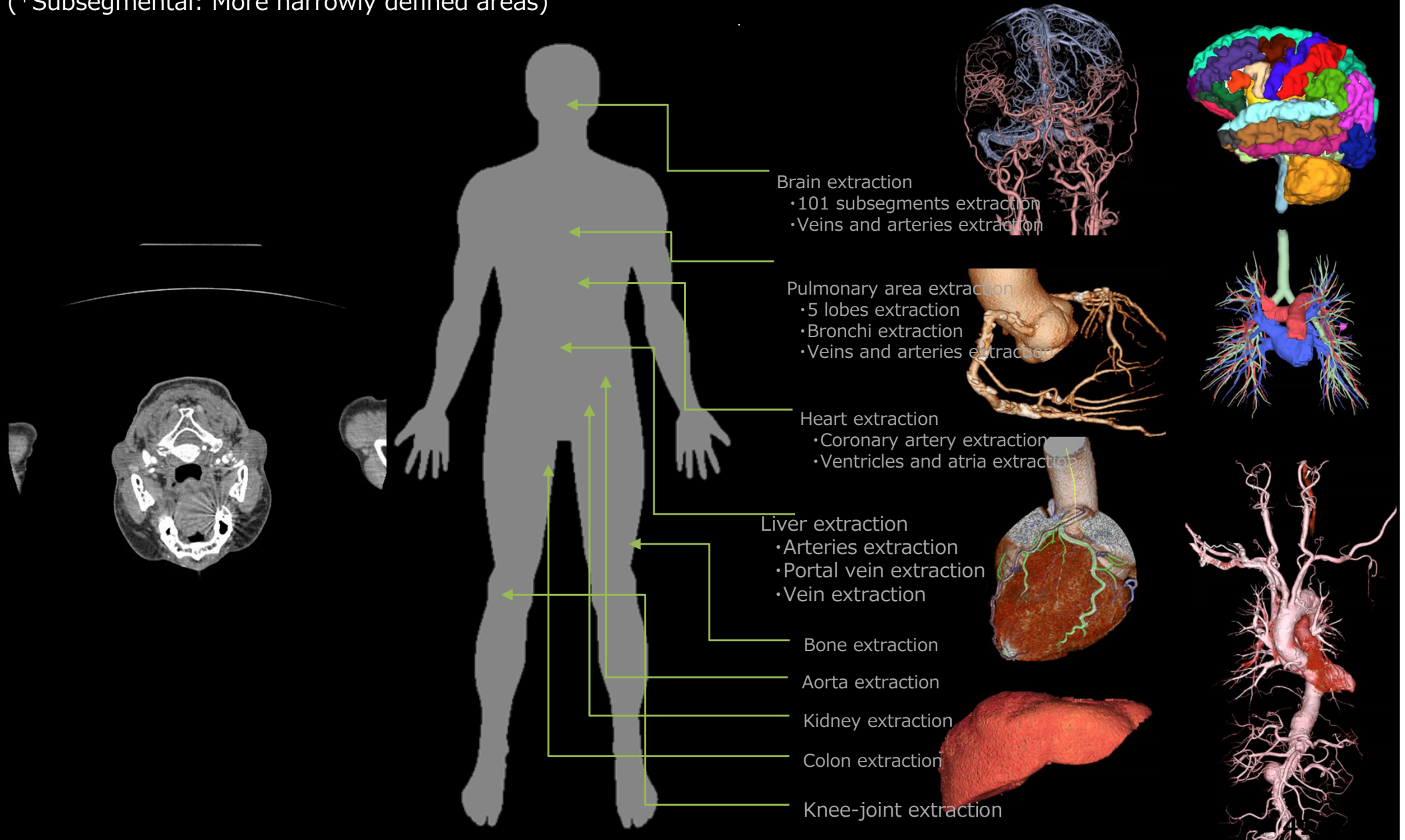
Image diagnosis support "AI platform"

SYNAPSE
SAI viewer



Organ Segmentation: CT Organ Recognition

Extraction technology for the main organs throughout the body nearly completed.
Further peripheral organ and subsegmental extraction under development!
(*Subsegmental: More narrowly defined areas)

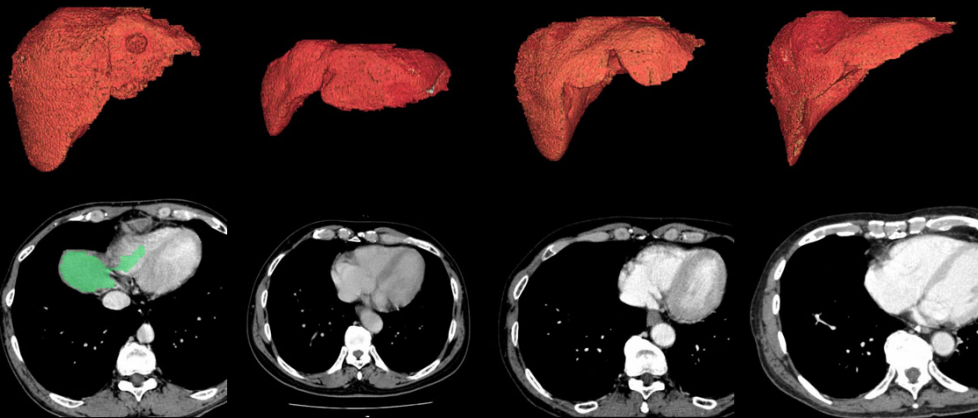


Pre-operation simulation for a partial liver resection using CT images

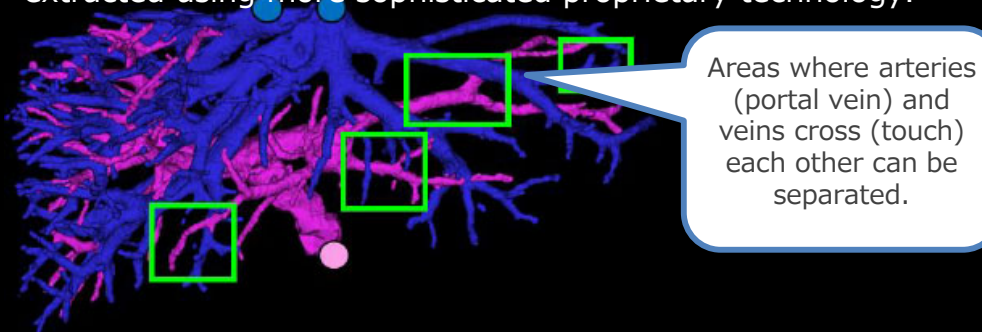
Full AI technology support for organ and blood vessel extraction in troublesome manual operations!

Technology 1 Liver area extraction

With AI technology, various shaped patterns can be extracted.



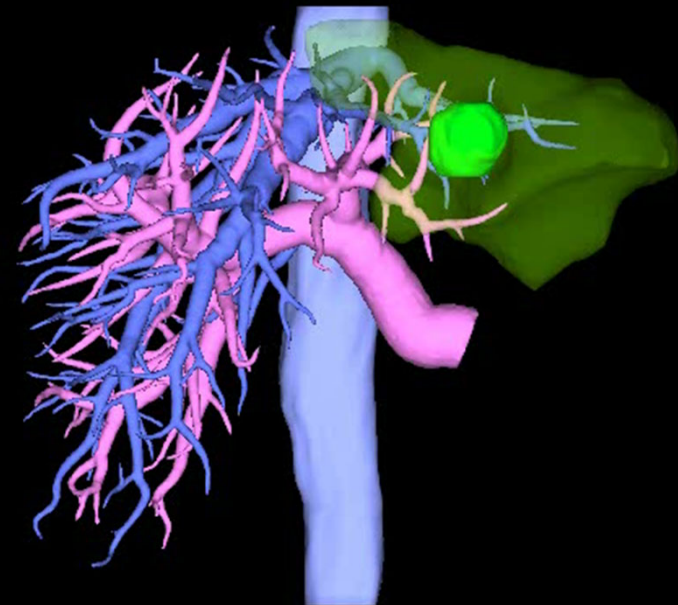
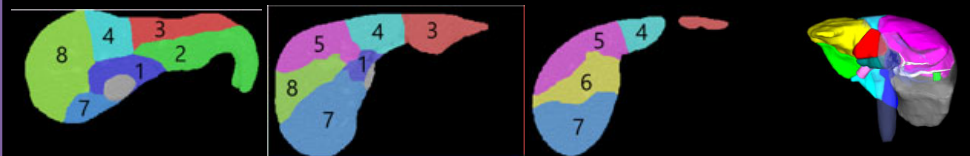
Further, each blood vessel inside the liver can be automatically extracted using more sophisticated proprietary technology.



Areas where arteries (portal vein) and veins cross (touch) each other can be separated.

Technology 2 Liver area extraction

Technology also established to divide the interior liver area by function (Couinaud classification) using the same way of thinking as surgeons, fully utilizing liver area and blood vessel area data.



Supports the detection of pulmonary nodules, which requires high-level concentration and expertise, using AI technology.

Various pulmonary nodule shadows



Ground glass type

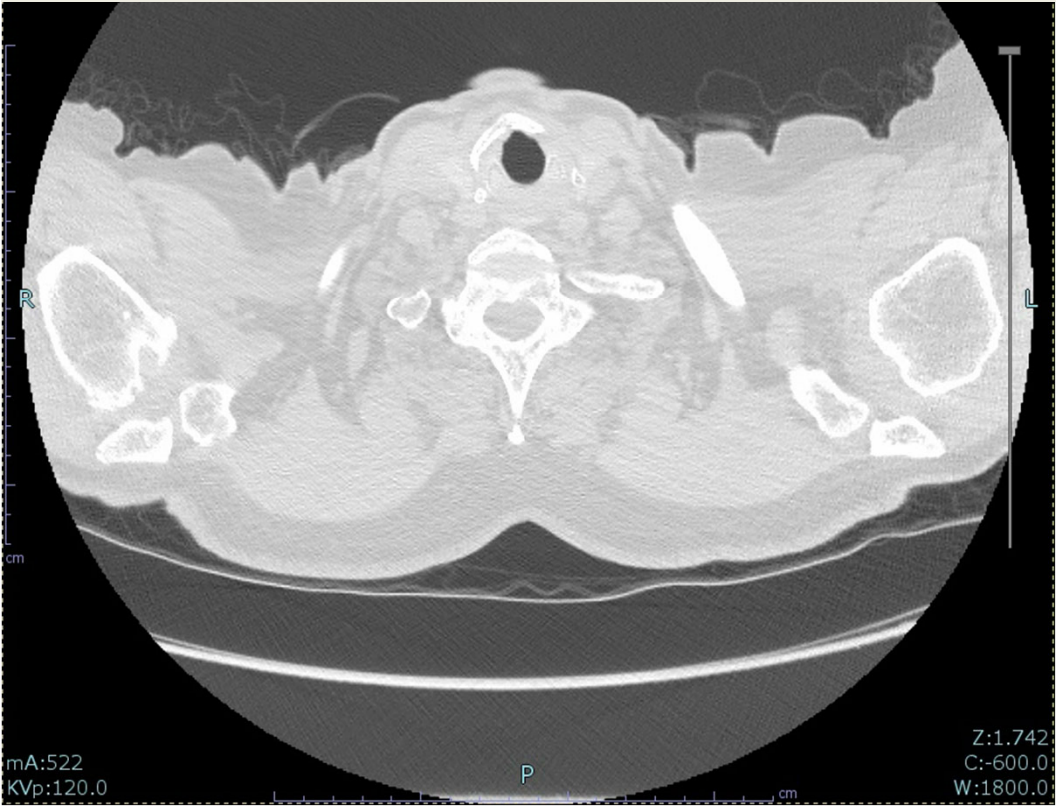
Part Solid

Minute nodule

Contact with thoracic wall

Features of AI

Enables detection of minute nodules, pale ground glass type nodules, and other small and pale shadows that are easily overlooked by doctors (humans).



Reduce risk of doctors overlooking pulmonary nodules

Pulmonary nodule detection function
Brand name: Pulmonary Nodule Detection
Program FS-AI688
ID No.: 30200BZX00150000

*1: Pulmonary nodule candidate detection program in chest CT (April 2021, Fujifilm survey)

Rationalization of Workflow: Presentation of Candidate Pulmonary Nodules Observation Notes

SAI SYNAPSE SAI Viewer

Unspecified, Pat_2019.11.08.10.11.07 FF-NU-3B39FA0CB1E209CE4F230019A8C2EE56 CT 2013/08/23 ×

All | CT | MR | PT | CT+MR | CT+PT

検査日時	モディ	検査項目群
2015/02/10 14:5	CT	CT-ORION (TEST)
2013/08/23 14:2	CT	CT-ORION (TEST)
2013/07/25 15:3	CT	UNKNOWN

SynapseRP,2Monitor,CT Stacked Series

Unspecified, Pat_2019.11.08.10.11.07 A NAGOYA UNIV HP 64B CT-ORION (TEST) Axial, 5.0,,, 2013/08/23 14:30:59

LOC:100 THK:5.0 (0.00,0.00,1.00)

RD:320.31 Tilt:0.0 Z:1.395 mA:351 C:20.0 W:320.0 Acq No:2 DFOV:32.0x35.9cm IM:21 SE:2 Page: 21/79

Unspecified, Pat_2019.11.08.10.11.07 A NAGOYA UNIV HP 64B CT-ORION (TEST) Axial, 5.0,,, 2013/08/23 14:30:59

LOC:100 THK:5.0 (0.00,0.00,1.00)

RD:320.31 Tilt:0.0 Z:1.395 mA:351 C:-600.0 W:1600.0 Acq No:2 DFOV:32.0x35.9cm IM:9 SE:4 Page: 9/62

Unspecified, Pat_2019.11.08.10.11.07 A NAGOYA UNIV HP 64B CT-ORION (TEST) Vol, 0.5, Vol,,, 2013/08/23 14:30:59

LOC:100 THK:0.5 (0.00,0.00,1.00)

RD:320.31 Tilt:0.0 Z:1.395 mA:351 C:-600.0 W:1800.0 Acq No:2 DFOV:32.0x35.9cm IM:141 SE:5 Page: 141/681

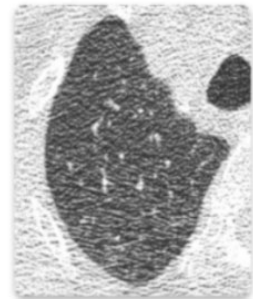
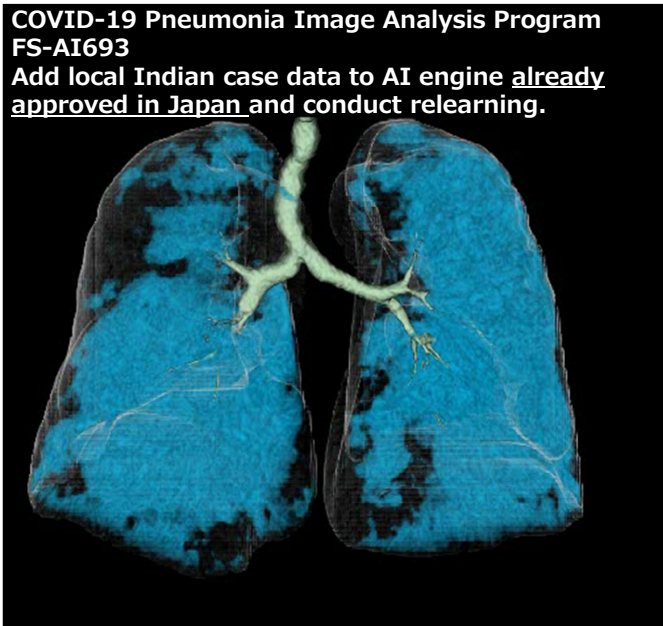
再構成画像

Unspecified, Pat_2019.11.08.10.11.07 H NAGOYA UNIV HP 64B CT-ORION (TEST)

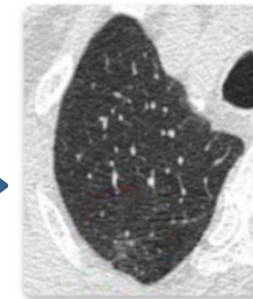
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Unspecified, Pat_2019.11.08.10.11.07 H NAGOYA UNIV HP 64B CT-ORION (TEST)

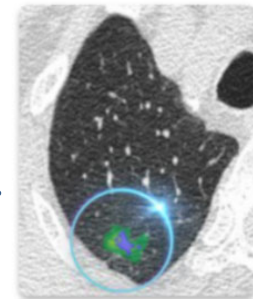
Unspecified, Pat_2019.11.08.10.11.07 H NAGOYA UNIV HP 64B CT-ORION (TEST)



Ultra-low radiation dose 0.1mSv



AI noise removal technology



AI abnormality detection

FHC's CT images are processed by combination of 3D processing and other AI, both developed by FUJIFILM. On top, PMDA approved COVID-19 pneumonia image analysis software will also be delivered in July 2021.

Fujifilm and the National Cancer Center JAPAN jointly develop an AI development support platform.

◆ **AI development support platform**

Develop a framework to apply AI to the vast and high-quality clinical data of leading physician, and **contribute to addressing unmet medical needs.**

✓ **Academia (university hospitals, etc.)**

Enable physician without specialized knowledge of programming or algorithms to develop image diagnosis support technology using AI technology. **Greatly accelerate clinical research by academia on rare diseases, etc.**

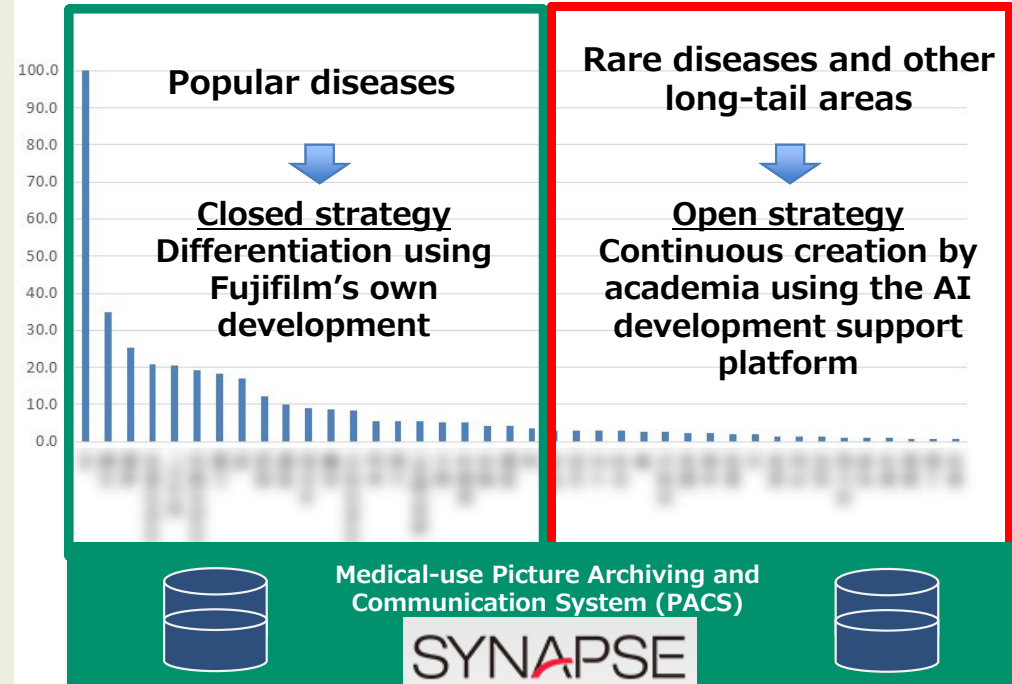
✓ **Fujifilm**

Will commercialize this platform within this fiscal year. **Fujifilm will commercialize disease AI developed by academia using the platform and provide it to the market.**

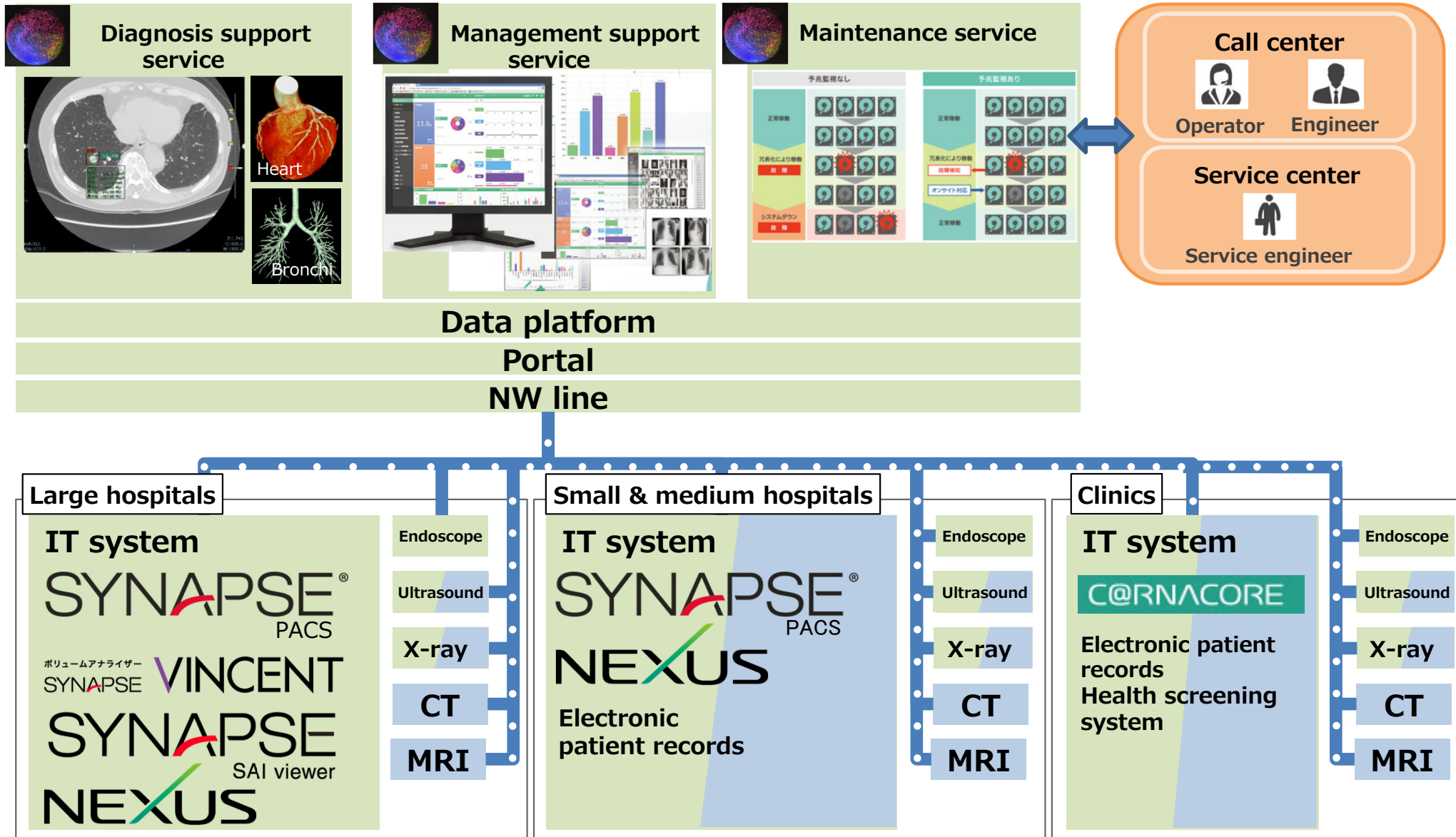
Joint press conference with the National Cancer Center (April 13)



(Example) Distribution of disease areas at a given medical institution



FUJIFILM intends to develop AI technologies, covering most disease areas by combining its own development and through clinical research. This is made possible by FUJIFILM's leading market share of PACS, and acceleration of product development.



Link all customer segments' IT systems and modalities to a network, and provide all types of services from the cloud going forward.

✓ **Continuous business growth through value creation utilizing AI technologies**

Fujifilm's strength is our unique possession in having both IT and devices. We advance **the creation of added value by combining these with** AI technologies and achieve **business growth in the global market.**

✓ **Aspire to be a global leading healthcare company**

With all the strength of the Fujifilm Group, we aim at becoming **a healthcare company that creates a future where anyone can enjoy high-quality medical services.**

Accelerate the development, utilization, and rollout of AI technologies. Make great contributions to the resolution of medical issues such as "eliminating regional disparities in medical services" and "early detection of diseases" through the medical systems business.

FUJIFILM

Value from Innovation