FUJIFILM
Value from Innovation

NEVER STOP

ESG Briefing

FUJIFILM Holdings Corporation
February 19, 2019

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. FUJIFILM's Thinking on ESG

Corporate VP, General Manager, Corporate Communications Office, Corporate Planning Div. **Chisato Yoshizawa**

2. CSR Plan "Sustainable Value Plan 2030"

General Manager, CSR Group Corporate Planning Div. **Motoko Kawasaki**

3. Medical IT Systems Providing Solutions to Issues at Medical Front

General Manager, IT Solution Div. Medical Systems Business Div. FUJIFILM Corporation **Toshiyuki Nabeta**

4. Panel Discussion

Social Challenges for FUJIFILM to Solve

Director **Makiko Eda**

General Manager, Corporate Communications Office **Chisato Yoshizawa**

General Manager, CSR Group **Motoko Kawasaki**

General Manager, IT Solution Div. Medical Systems Div. **Toshiyuki Nabeta**

FUJIFILM
Value from Innovation

NEVER STOP

Today's Takeaways

- **ESG is positioned at the heart of company's management and ingrained**

  CSR Plan "Sustainable Value Plan 2030" is cascaded down to and promoted in all business units through Mi-Term Management Plan "VISION2019"

- **"Providing value to society" and "contribution to company's performance" are both achieved**

- **"Formulation/execution of growth strategy" and "risk management" are continuously implemented based on social issues challenged in SDGs**

FUJIFILM
Value from Innovation

NEVER STOP

1. FUJIFILM's Thinking on ESG

Corporate VP, General Manager
Corporate Communications Office
Corporate Planning Div.

Chisato Yoshizawa

1. FUJIFILM's Corporate Philosophy and Vision

Value from Innovation

Corporate Philosophy

We will use leading-edge, proprietary technologies to provide top-quality products and services that contribute to the advancement of culture, science, technology and industry, as well as improved health and environmental protection in society. Our overarching aim is to help enhance the quality of life of people worldwide.

Vision

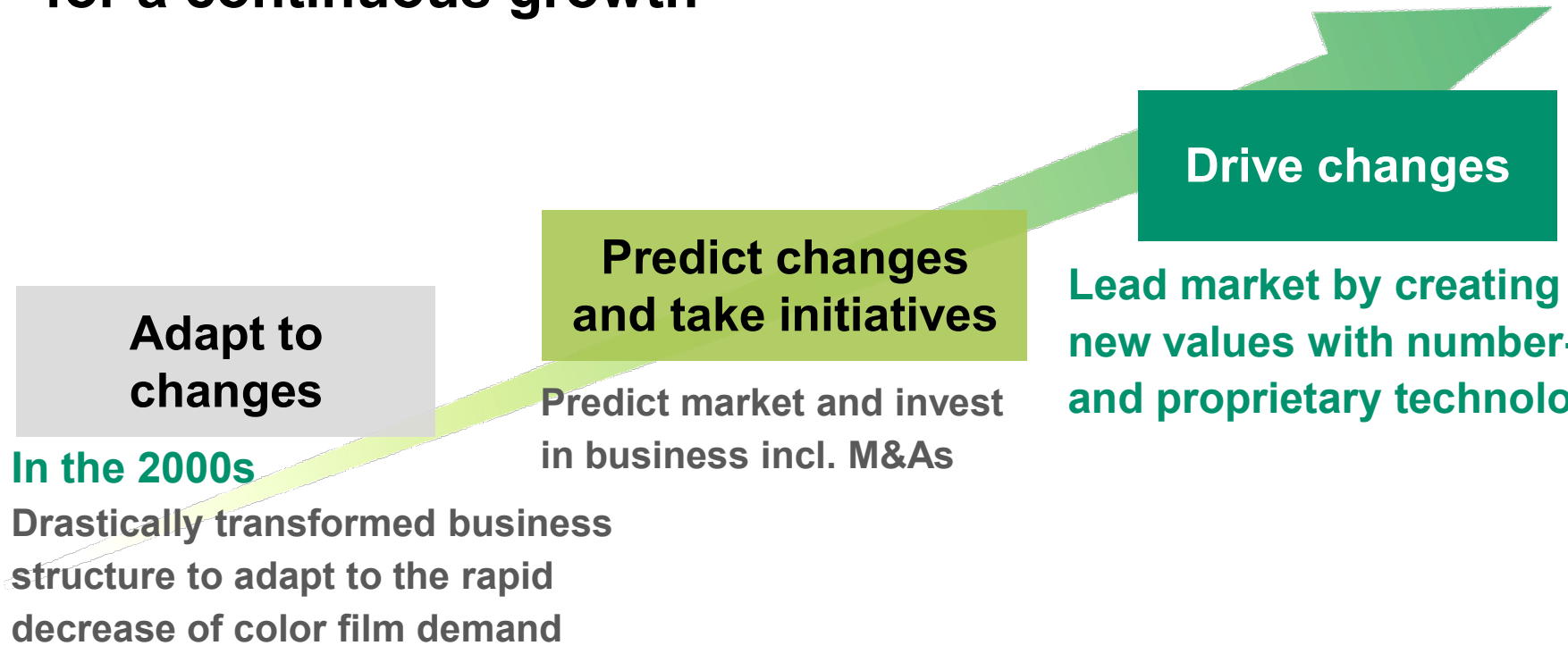
Anchored by an open, fair and clear corporate culture and with leading-edge, proprietary technologies, Fujifilm is determined to remain a leading company by boldly taking up the challenge of developing new products and creating new value.

FUJIFILM
Value from Innovation

NEVER STOP

2. Company "NEVER STOP" Evolving

To become "a company driving changes" for a continuous growth



Continue timely and decisive management to keep on creating new products and value

FUJIFILM
Value from Innovation

NEVER STOP

3. Strengthen Corporate Governance

➢Basic policy regarding corporate governance

Corporate governance is positioned as an important management priority and a basis for achieving the company's sustainable growth and increase its corporate value, while contributing to the sustainable development of society.

➢Main measures taken in recent years

Year	Measures
2014	Increase in the number of independent directors to two persons
2015	Formulation of Corporate Governance Guidelines
	Commencement of the evaluation of the BoD's effectiveness
2017	Increase in the number of independent directors to three persons, thereby raising the ratio of outside directors on the BoD to one-third
	Restructuring of organizations for accounting and audit etc.
2018	Increase in the number of independent directors to four persons
	Establishment of the Nomination and Remuneration Advisory Committee

Augment corporate governance to enhance transparency in management

FUJIFILM
Value from Innovation

NEVER STOP

3. Strengthen Corporate Governance

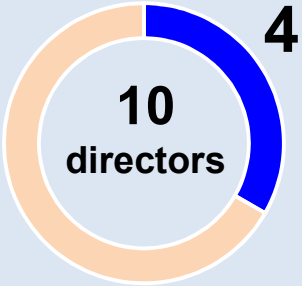
➢Increase the number of independent directors up to 4

until 28th of June, 2017

2 independent directors
16.6%

✓Increase the number of independent directors
✓Downsize the BoD

at present



4 independent directors
40.0%

(Clockwise from top left)

Makoto Kaiami
✓Attorney

Kunitaro Kitamura
✓Chairman (Director) of Sumitomo Mitsui Trust Bank, Limited

Tatsuo Kawada
✓Chairman and CEO of SEIREN CO., LTD.

Makiko Eda
✓Chief Representative Officer of World Economic Forum Japan

Ms. Eda was newly elected at GMS in 2018

Enhanced diversity in the composition and skill sets at BoD

FUJIFILM
Value from Innovation

NEVER STOP

3. Strengthen Corporate Governance

➢Established the Nomination and Remuneration Advisory Committee

Nomination and Remuneration Advisory Committee

- A voluntary advisory organization of the BoD
- <Main Items for Discussion>
  A succession plan of the CEO
  A basic policy and procedures related to compensation for Directors
- <Composition>
  Three or more members elected by the resolution of the BoD
  Elect an independent director as chairman
- <Current members>
  Chairman: Mr. Kawada (independent Director)
  Members: Mr. Kitamura (independent Director)
  Mr. Komori (Representative Director & CEO)

Enhanced transparency related to succession plan and compensation

FUJIFILM
Value from Innovation

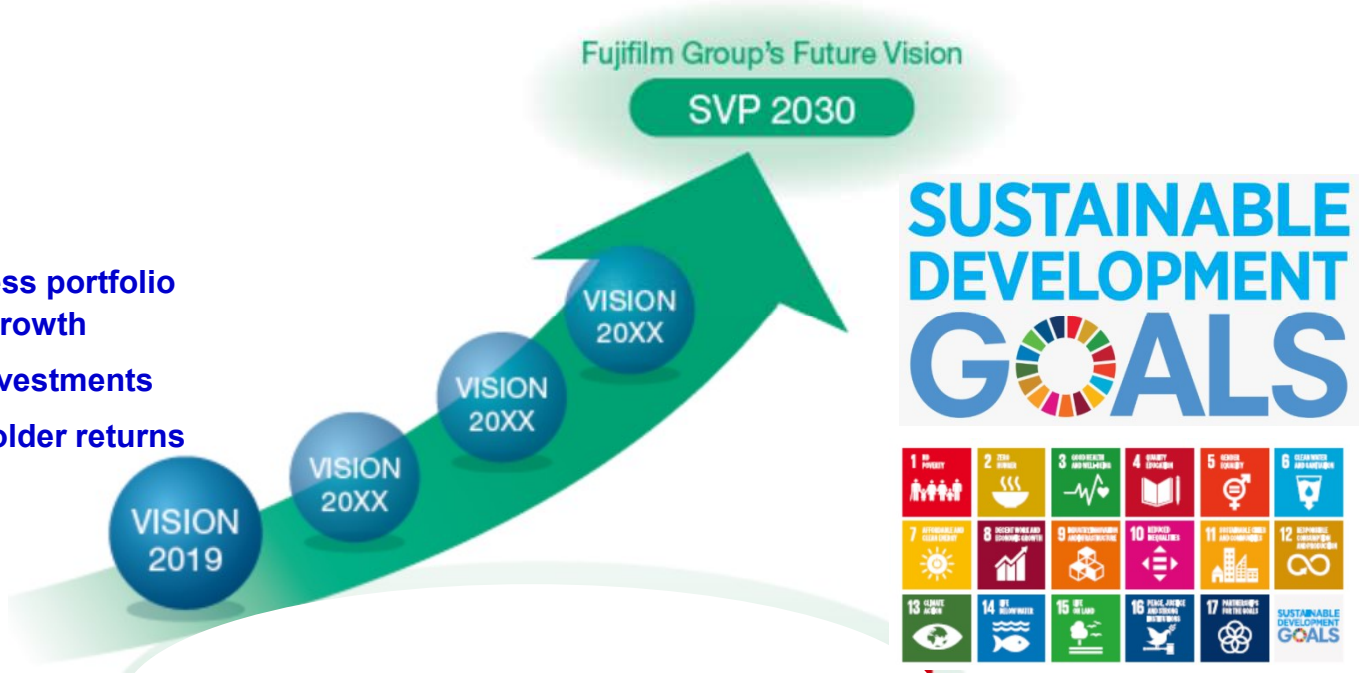
NEVER STOP

4. Positioning of CSR and Mid-Term Management Plan

VISION2019

- **Building a robust business portfolio to accelerate business growth**
- **Making strategic M&A investments**
- **Enhancement of shareholder returns**

- **Achieving the record high operating profit**
- **Improving ROE**



Positioning VISION2019 as an action plan for fulfilling SVP2030 and attaining its goals through business operations

FUJIFILM
Value from Innovation

NEVER STOP

2. FUJIFILM's CSR Plan: Sustainable Value Plan 2030

February 19, 2019

Motoko Kawasaki
General Manager, CSR Group,
Corporate Planning Division

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

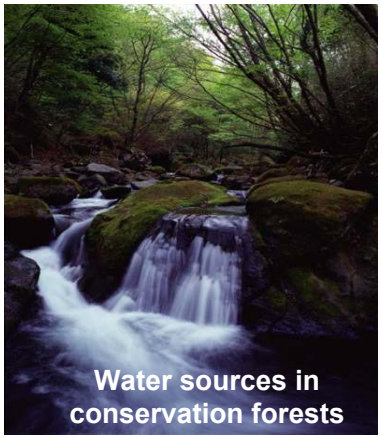
1. Fujifilm Group's CSR
2. Sustainable Value Plan 2030 (SVP2030)
   - 2-1. Overview of SVP2030
   - 2-2. Identifying priority issues (materiality)
   - 2-3. Initiatives in the environment field
   - 2-4. Initiatives in the healthcare field

FUJIFILM
Value from Innovation

NEVER STOP

1. Fujifilm Group's CSR

- Awareness and DNA at the time of corporate foundation



Water sources in conservation forests

Ashigara Site at the Kanagawa Factory

✧ A large amount of clean water and air is indispensable in manufacturing photographic films, which is the original foundation of Fujifilm

⇒Environmental considerations and conservation are essential.

✧ Photographic films cannot be tested before shooting. There is no re-shooting a once-in-a-lifetime moment.

⇒ "People are paying for trust when buying photographic films."

Emphasis on "environmental consideration / conservation" and "trust from society" since corporate foundation

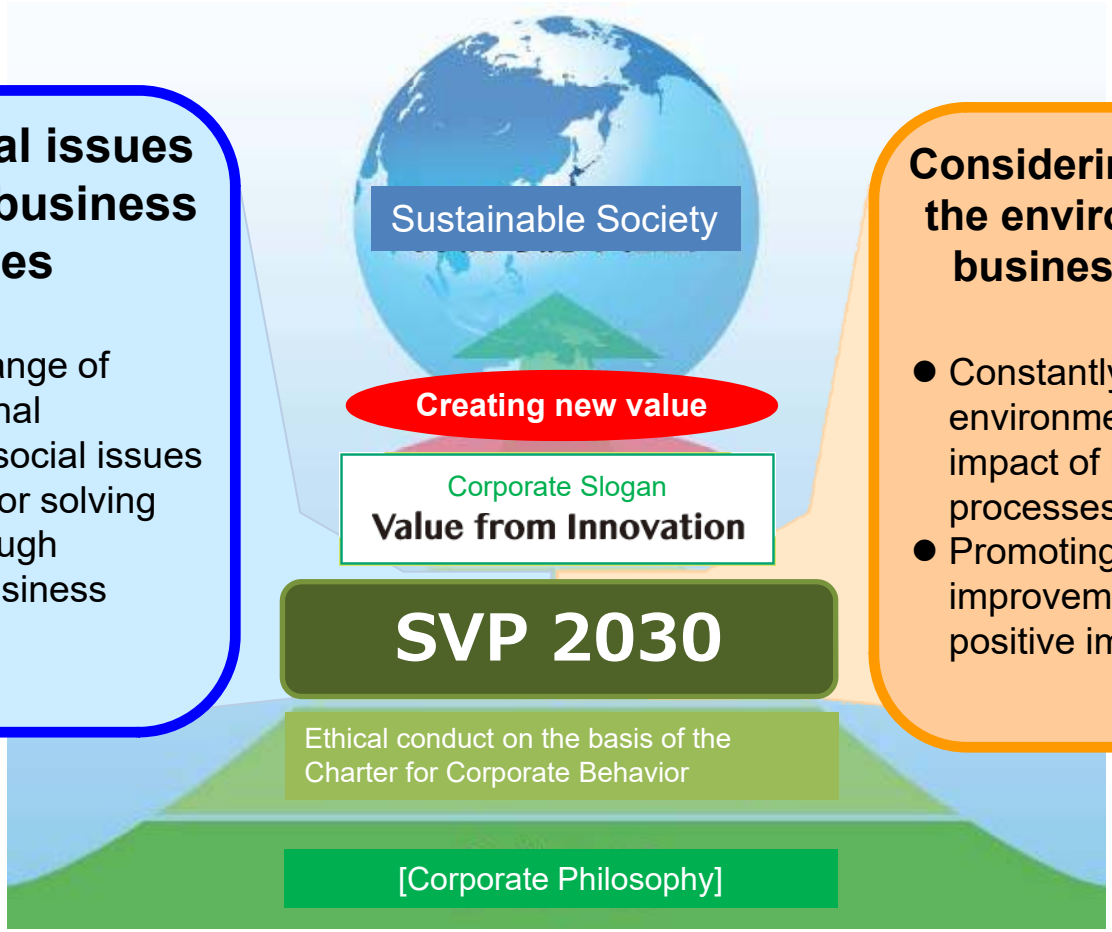
FUJIFILM
Value from Innovation

NEVER STOP

1. Fujifilm Group's CSR - Approach

Solving social issues through our business activities

- Recognizing a range of global and regional environmental / social issues
- Offering values for solving such issues through Fujifilm's own business



Considering society and the environment in our business processes

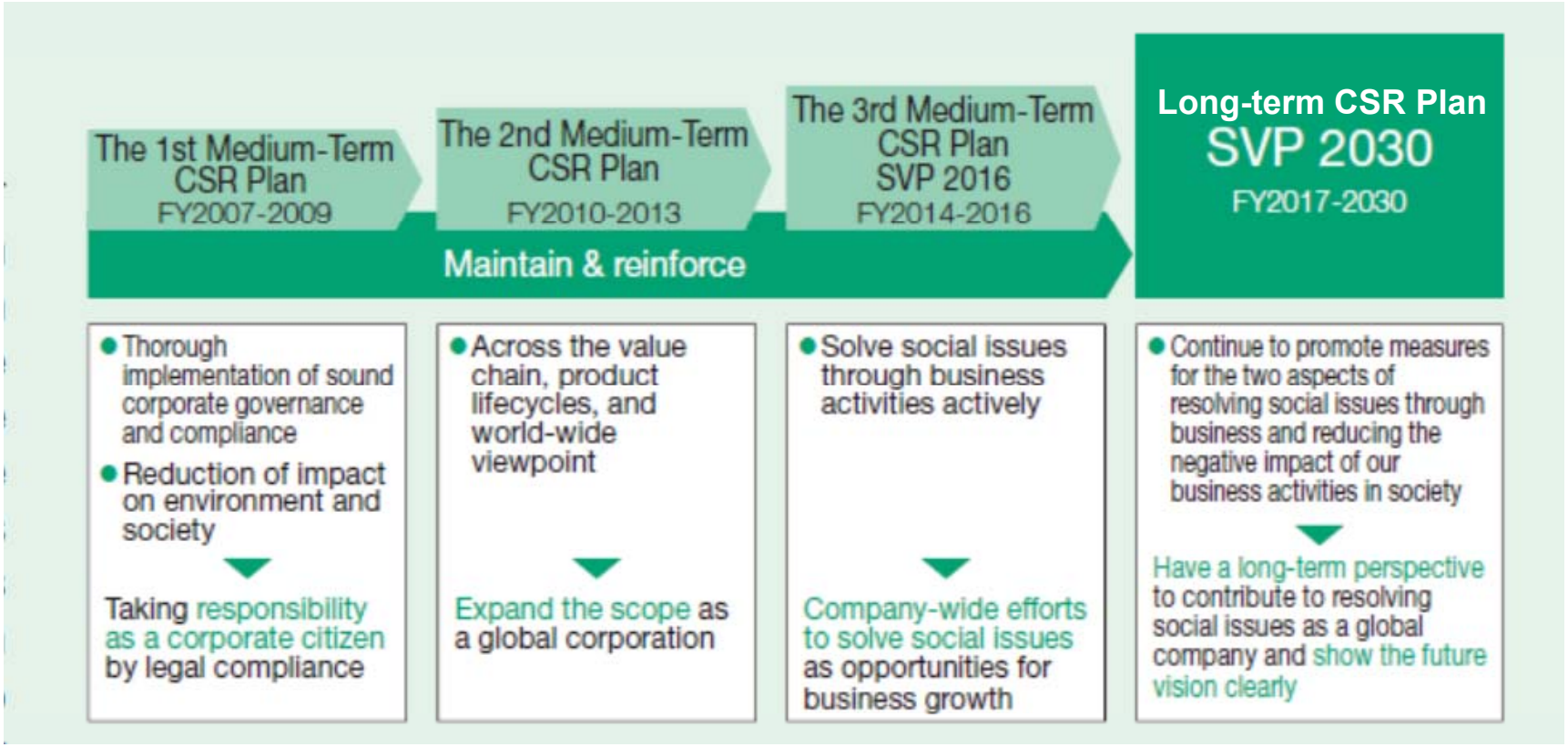
- Constantly assessing the environmental and social impact of business processes
- Promoting continuous improvement to spread a positive impact on society

"Creating new values" based on outstanding technology, and providing them to society through business operations so as to contribute to the development of sustainable society

FUJIFILM
Value from Innovation

NEVER STOP

1. Fujifilm Group's CSR - Transition

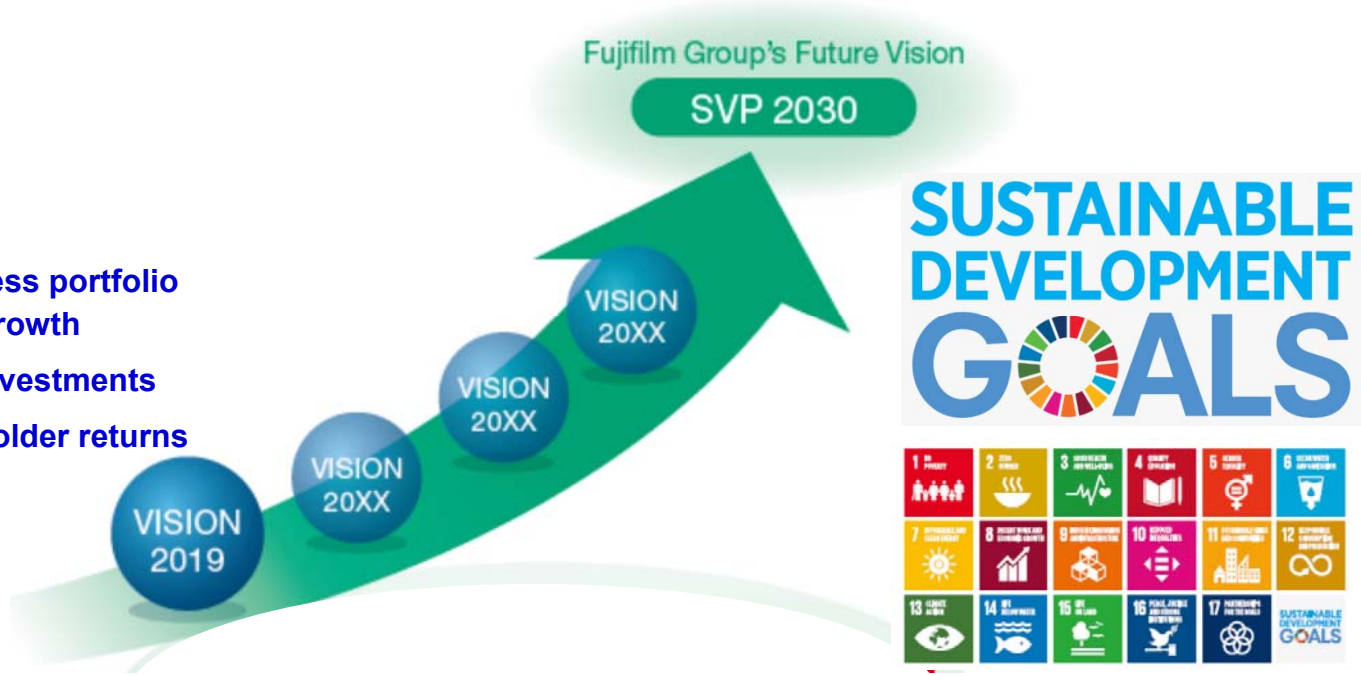


Drawing up SVP2030, a CSR plan with the target year of 2030, in which solving social issues is defined as "opportunity for business growth" and "enhancement of business foundation"

FUJIFILM
Value from Innovation

NEVER STOP

1. Fujifilm Group's CSR
- Positioning in management planning



VISION2019

- **Building a robust business portfolio to accelerate business growth**
- **Making strategic M&A investments**
- **Enhancement of shareholder returns**

- **Achieving the record high operating profit**
- **Improving ROE**

SUSTAINABLE DEVELOPMENT GOALS

Positioning VISION2019 as an action plan for fulfilling SVP2030 and attaining its goals through business operation

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Fujifilm Group's CSR
2. Sustainable Value Plan 2030 (SVP2030)
   - 2-1. Overview of SVP2030
   - 2-2. Identifying priority issues (materiality)
   - 2-3. Initiatives in the environment field
   - 2-4. Initiatives in the healthcare field

FUJIFILM
Value from Innovation

NEVER STOP

2-1. Overview of SVP2030

Environment

Reduce our own environmental impacts and contribute to the resolution of environmental issues.

Priority Issue

1. Address climate change.
2. Promote recycling of resources.
3. Address energy issues toward a non-carbon society.
4. Ensure product and chemical safety.

Health

Create a healthy society through the process of prevention, diagnosis and treatment in healthcare.

Priority Issue

1. Fulfill unmet medical needs.
2. Improve accessibilities to medical services.
3. Contribute to identifying diseases at an early stage.
4. Contribute to health promotion and beauty.
5. Promote management of a healthy workplace.

Daily Life

Support the tangible and intangible aspects of social infrastructure in people's lives through various products, services and technologies.

Priority Issue

1. Contribute to creating a safe and secure society.
2. Contribute to enriching humanity and relationships between people.

Work Style

Promote social change where every person is motivated in the workplace through extending our in-house work-style reforms.

Priority Issue

1. Create environments that lead to motivated workplace.
2. Develop and utilize diverse human resources.

Supply Chain

Priority Issue

Strengthen CSR foundations across the entire supply chain including factors of the environment, ethics, and human rights.

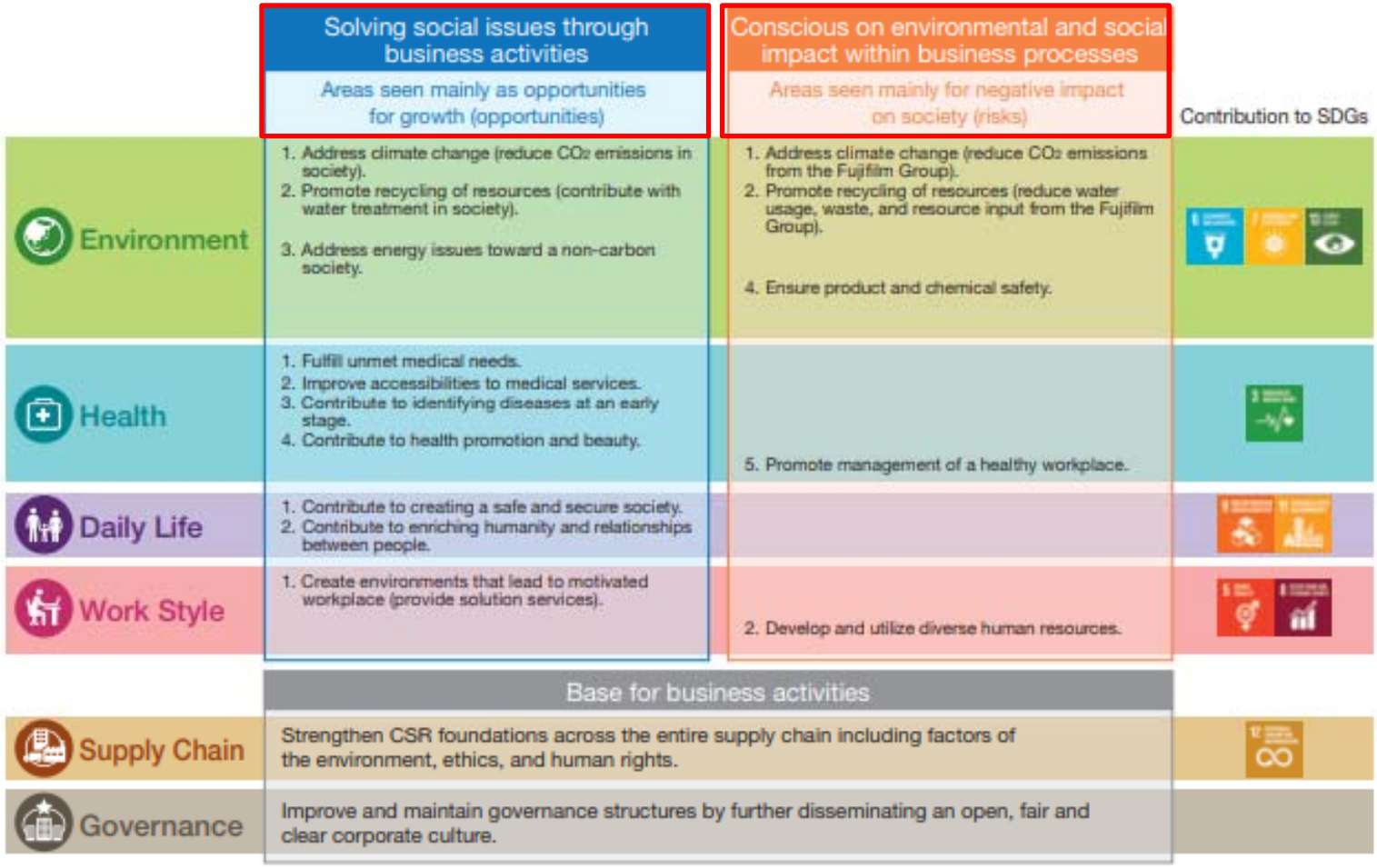
Governance

Priority Issue

Improve and maintain governance structures by further disseminating an open, fair and clear corporate culture.

Defining 15 priority issues in six priority areas, namely the "Environment," "Health," "Daily Life," "Work Style," "Supply Chain" and "Governance"

2-1. Overview of SVP2030



Working on priority issues to contribute to solving social issues

Creating new business opportunities and averting mid- to long-term management risks

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Fujifilm Group's CSR
2. Sustainable Value Plan 2030 (SVP2030)
   - 2-1. Overview of SVP2030
   - 2-2. Identifying priority issues (materiality)
   - 2-3. Initiatives in the environment field
   - 2-4. Initiatives in the healthcare field

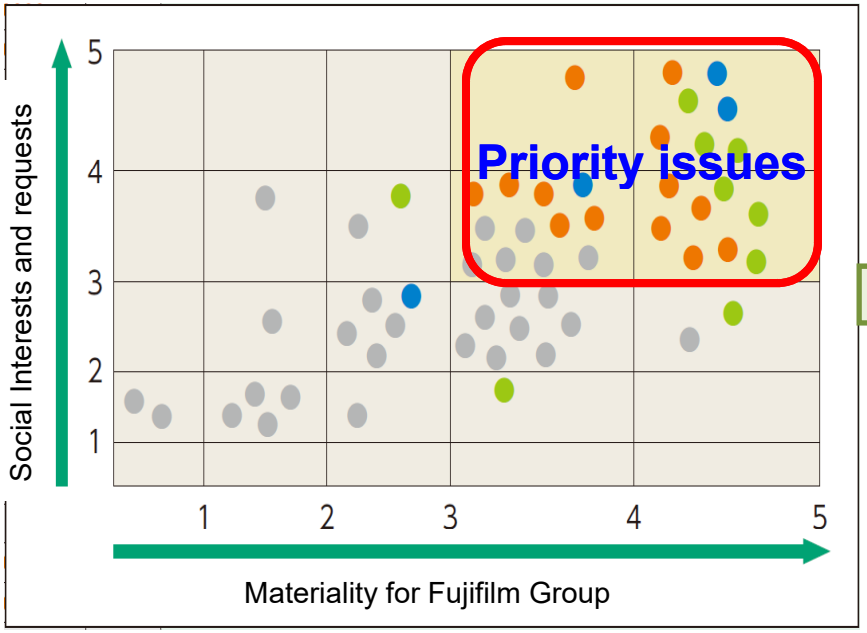
FUJIFILM
Value from Innovation

NEVER STOP

2-2. Identifying priority issues (materiality)

Identifying priority issues from the perspectives of "resolving social issues through business" and "reducing strains created by business activities"

<Materiality mapping for extracting priority issues>



Identifying priority issues

Priority areas and priority issues

- **Environment**
  - ✓Reducing CO_2 emissions and contributing to the conservation of water resources
- **Health**
  - ✓ Addressing unmet medical needs
  - ✓ Improving accessibility to healthcare
  - ✓ Ensuring employees' health
- **Daily life**
  - ✓Creating a safe and secure society
  - ✓Enriching humanity
- **Work style**
  - ✓ Creating a work environment that leads to motivated workplace
  - ✓ Utilizing diverse human resources
- **Supply chain management**
- **Governance**

Identifying issues with a high level of "social interest / request" and "importance for the Fujifilm Group" as "materiality (priority issues)"

FUJIFILM
Value from Innovation

NEVER STOP

2-2. Fujifilm Group's materiality

	Photo imaging	Optical Device & Electronic Imaging	Medical systems	Bio CDMO	Pharmaceuticals	Regenerative medicine	Life science	Display materials	Electronic materials	Industrial products	Fine chemicals	Graphic systems	Inkjet	Recording media	Document solutions	Human resources
Environment SDGs 6/7/13																
1. Addressing climate change	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2. Promoting the recycling of resources	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3. Addressing energy issues										○						
4. Ensuring product and chemical safety	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Health SDGs3																
1. Fulfilling unmet medical needs			○	○	○	○	○				○					
2. Improving accessibilities to medical services			○	○		○					○					
3. Contributing to identifying deseases at an early stage			○								○					
4. Contributing to health promotion and beauty							○									
5. Promoting the management of healthy workplace																○
Daily Life SDGs9/11																
1. Contributing to creating a safe and secure society								○	○	○				○		
2. Contributing to enriching humanity and relationship between people	○	○														
Work Style SDGs5/8																
1. Creating environments that lead to motivated workplace												○			○	
2. Developing and utilizing diverse human resources	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Supply Chain SDGs12																
Strengthening CSR foundations across the entire supply chain	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Governance																
Further disseminating an open, fair and clear corporate culture	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Incorporating the chosen materiality into each business division's planning

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Fujifilm Group's CSR
2. Sustainable Value Plan 2030 (SVP2030)
   - 2-1. Overview of SVP2030
   - 2-2. Identifying priority issues (materiality)
   - 2-3. Initiatives in the environment field
   - 2-4. Initiatives in the healthcare field

FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- SVP2030 and VISION2019

	Sustainable Value Plan 2030	VISION2019
Environment	**Priority issue 1: Addressing climate change** **(1) Reducing the Fujifilm Group's CO_2 emissions by 30% by FY2031/3 (from the FY2014/3 level)** **(2) Contributing to 50-million ton reduction in CO_2 emissions in society by FY2031/3**	● **Recording media** Expanding the sales of Barium Ferrite (BaFe) magnetic particle-based tapes and deploying data archiving services overseas ● **Graphic systems** Expanding the sales of value-added products such as process-less printing plates with advanced environmental performance ● **Document solutions** Enhancing the value offered by solutions
	Priority issue 2: Promoting the recycling of resources (1) Reducing the Fujifilm Group's water use by 30% by FY2031/3 (from the FY2014/3 level) (2) Contributing to 35 million tons of water treatment in society per year by FY2031/3 (3) Reducing the amount of waste the Fujifilm Group generates by 30% by FY2031/3 (from the FY2014/3 level) (4) Improving the efficiency of the Fujifilm Group's resource use per unit of production by 30% by FY2031/3 (from the FY2014/3 level)	● **Graphic systems and inkjet** Expanding the sales of value-added products such as process-less printing plates with advanced environmental performance ● **Industrial products** Expanding the sales of high-function products such as micro-filters
	Priority issue 3: Addressing energy issues Using highly-functional materials to contribute to creating and spreading renewable energies	
	Priority issue 4: Ensuring product and chemical safety Minimizing adverse effects of chemical substances on humans and the environment	● **Fine chemicals** Developing competitive chemical products and reagents

FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- CO_2 emission reduction by the Fujifilm Group

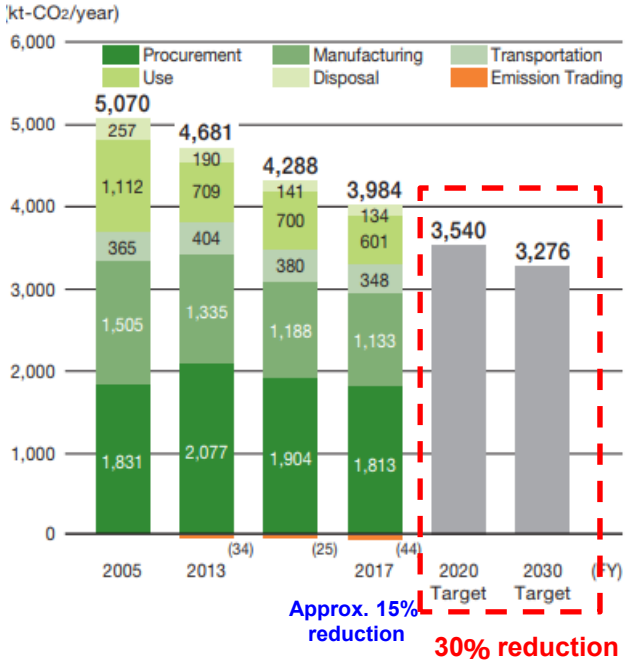
(1) Reducing **Fujifilm Group's CO_2 emissions** by 30% by FY2031/3 (from the FY2014/3 level)

▼ Transition of CO_2 emissions across the entire product life cycle

- **Maximizing energy efficiency and reducing CO_2 emissions in energy procurement across the entire Group**

•2016: Switching to 100% use of electricity derived from renewable energies at a Dutch factory

•2016: Introducing new small-scale energy supply facilities



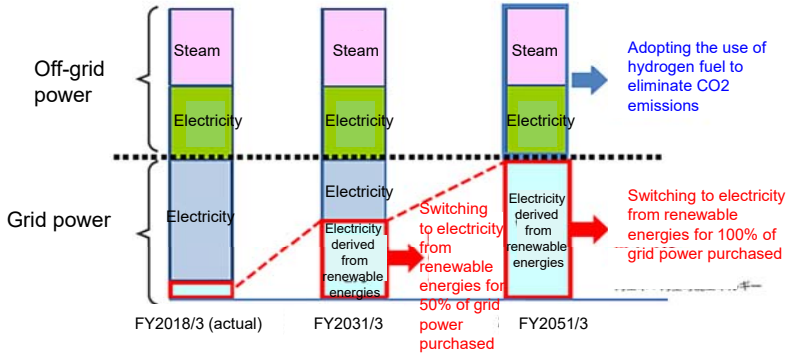
▼To achieve targets for 2030

- **Further accelerating the pursuit for energy efficiency and renewable energies**
- **2020: Switching to 100% use of electricity derived from renewable energies at two Belgium factories**
- **Setting the targets for introducing renewable energies**

(1) Purchasing electricity derived from renewable energies at a greater proportion (50% by 2030 and 100% by 2050)

(2) Switching to hydrogen fuel for in-house power generation (eliminating CO_2 emissions)

Future transition of energy composition



Accelerating the use of renewable energies to be able to respond flexibly to the tightening environmental regulations etc.

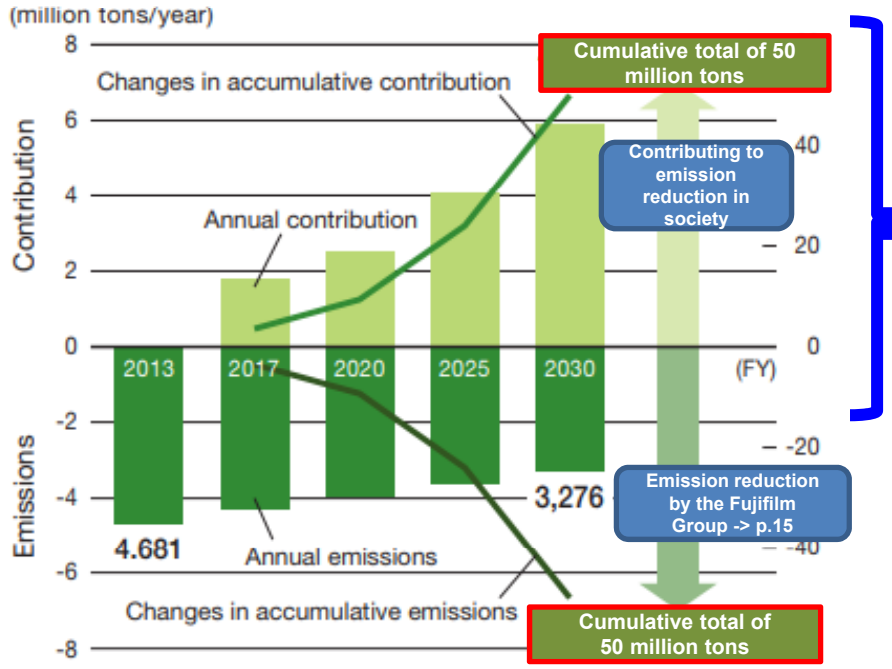
FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- Reducing CO_2 emissions in society

(2) **Contributing to 50-million ton reduction in CO_2 emissions in society by FY2031/3**

▼Conceptional Diagram of CO_2 Emission Volume and Size of Contribution



▼Reducing environmental strains in society through the delivery of products and services

Recording media
Increasing the market share for BaFe magnetic particle-based tapes and deploying data archiving services overseas

Graphic systems
Expanding the sales of value-added products such as process-less printing plates with advanced environmental performance

Document solutions
Enhancing the value offered by solutions

Contributing to CO_2 emission reduction in society through the Group's products and services to offset the amount of CO_2 emissions generated by its business activities

FUJIFILM
Value from Innovation

NEVER STOP

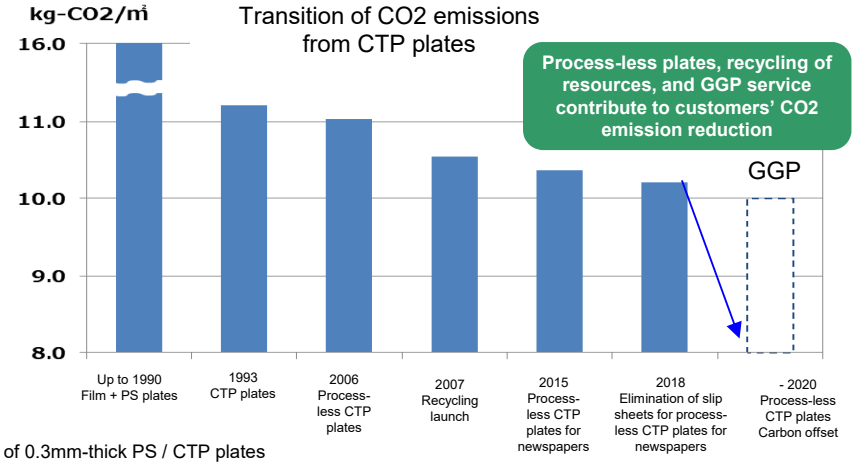
2-3. Initiatives in the environment field
- Reducing CO_2 emissions in society

● Contributing to CO_2 emission reduction through the graphic systems business

Contributing to customers' CO_2 emission reduction through the delivery of process-less thermal CTP plates, which have outstanding environmental performance

- Reducing environmental impact through design for environment

1993	Launch of CTP plates (film-less processing)
2006	Launch of **"process-less CTP plates"** (eliminating the need for developing process)
2007	**Launch of closed-loop recycling**
2010	Starting carbon footprint (CFP) labeling
2015	Releasing process-less CTP plates for newspapers
2018	**Eliminating the need for interleaf paper for process-less CTP plates for newspapers**



* In the case of 0.3mm-thick PS / CTP plates

- Launched "Green Graphic Project (GGP)" in 2018

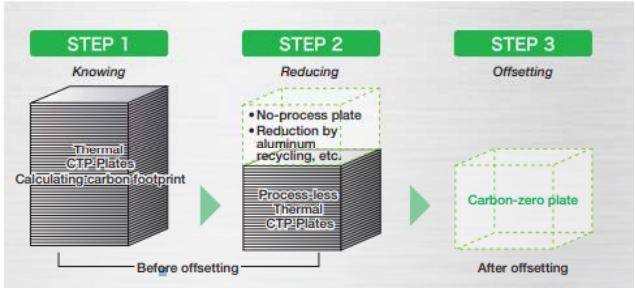
GREEN GRAPHIC PROJECT

Printing companies/
News paper companies

FUJIFILM

Initiatives: **Providing carbon-zero plates using carbon offset**

Carbon Offset Scheme by Process-less CTP Plates → **CO2 reduction in the total industry**



Strengthening ties with customers by expanding the sales of process-less thermal CTP plates and Green Graphic Project to achieve the reduction of an environmental burden in the total industry and business growth

FUJIFILM
Value from Innovation

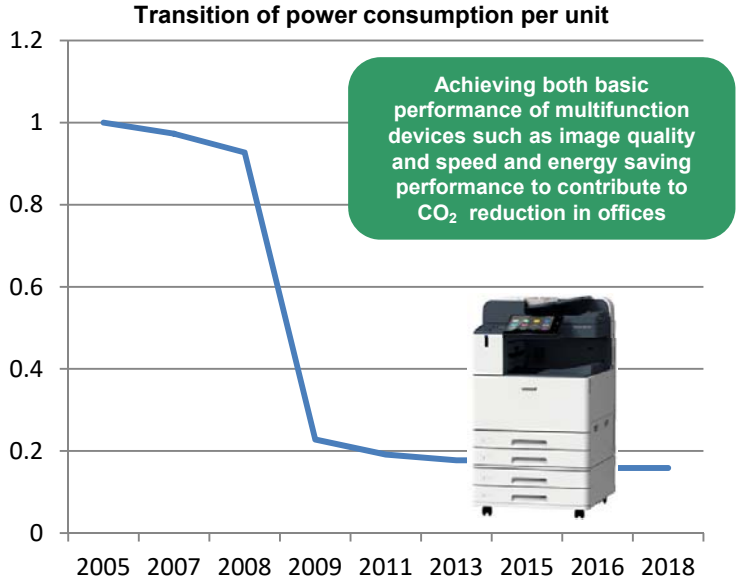
NEVER STOP

2-3. Initiatives in the environment field
- Reducing CO_2 emissions in society

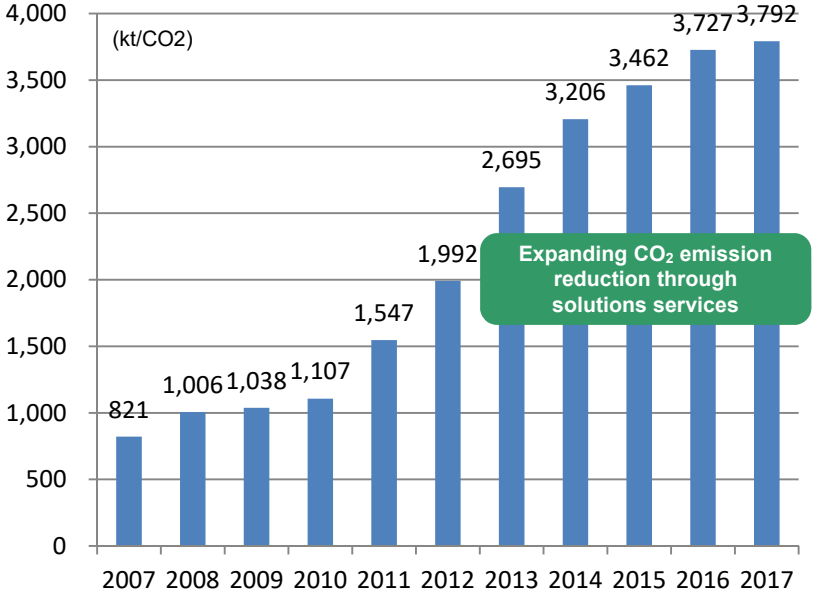
● Contributing to CO_2 emission reduction through document solutions

Offering environmentally-conscious multifunction devices, solutions and services to contribute to customers' CO_2 reduction

・Increased energy efficiency in photocopiers and multifunction devices



・Contribution to CO_2 emission reduction at customers' offices and factories



※ TEC value: Typical Electricity Consumption per week
This concept is used to compare energy efficiency of products, similarly to fuel economy figures for automotive.

Contributing to optimization of office activities and reduction of environmental burden by thoroughly implementing energy saving of multifunction devices and expanding solution services.

FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- Reducing CO_2 emissions in society

●Contributing to CO_2 emission reduction through document solutions

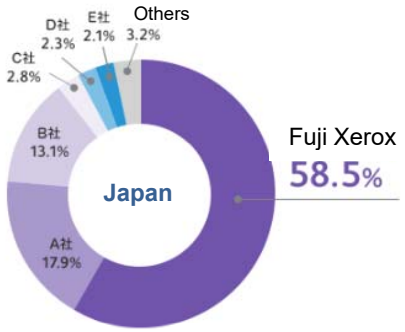
-Offering the Managed Print Service (MPS) to reduce customers' cost and CO_2 emissions (2015 – 2017 actual)

- Reviewing models and layout of multifunction devices and suggesting the optimum layout
⇒ Number of installation units reduced: by approx. 24% after optimization

- Suggesting work process improvement, e.g. electronically handling tasks that used to be carried out with hardcopies, to reduce paper use and increase productivity
⇒ Paper use reduced: by approx. 10% after optimization

- Using reconditioned devices that meet the quality standards equivalent to new products
⇒ Introduction rate of reconditioned devices: 43% after optimization
(0% before optimization)

Market share in sales in MPS market, 2017



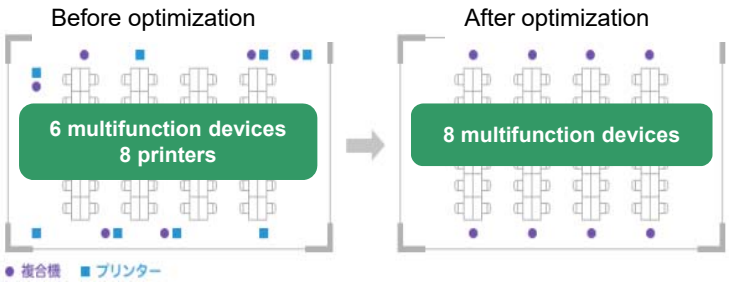
IDC Japan "Market share of MPS in Japan, 2017: Strategies of vendors in domestic market", June 2018

Market share in MPS sales in Japan and worldwide*
No.1

*Total amount including the sales of Xerox Corporation

Reduction of CO_2 emissions: 13,400 t - CO_2 after optimization

<Example of reduction>



Winning minister's prize held by METI and Ministry of Environment

Winner of the METI Minister's Prize of FY2017 Energy Conservation Grand Prize in the business model category

Winner of the FY2018 Environment Minister's Award for Global Warming Prevention Activity in the advanced counter-measure technologies category

Achieving cost reduction and mitigation of environmental burden at the same time

Through expansion of service business, accelerate "growth in document business" and "reduction of environmental burden at customers' offices"

FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- Environmental accounting

<Objectives of environmental accounting>
(1) Providing internal and external stakeholders with correct environmental information quantified in terms of mass and economy
(2) Providing numerical environmental information that is used in decision-making by senior management and site managers

(100 million yen)

Environmental accounting (FY2018/3)	Environmental conservation costs		Environmental conservation benefits			
	Capital investments	Expenses	Economic impact inside the Group		Economic impact outside the Group	
1. Costs incurred within the business site						
(1) Environmental damage prevention	3.8	14.1	Reduced pollution levy	0.1	Reduction in VOC emissions *1	-0.3
(2) Global environmental protection	7.1	21.9	Energy conservation	4.9	Reduction in CO_2 emissions *2	0.2
(3) Resource recycling	0.0	21.6	Reduced raw materials and resources used	62.6	Reduced waste materials through reuse and recycling *3	144.5
			Reduced water resource consumption *4	3.3		
			Silver	16.2		
			Polymeric materials	3.2		
			Aluminum materials	1.5	Reuse of aluminum materials	0.4
			Others	1.8		0.0
2. Upstream/downstream costs Recovery from the market	0.1	70.0	Parts recovered from used equipment	80.4		
3. Cost of management activities	0.5	107.4				
4. Research and development costs	13.7	95.3			Impact of reduced environmental load at customers	1,197.5
5. Costs for social programs	0.0	1.2				0.0
6. Costs for handling environmental damage Pollution levies	0.0	0.3				0.0
Subtotal	25.1	331.8		173.9		1,342.3
Total	**356.9**		**1,516.2**			

*1 VOC emission reductions: ¥350,000/ton
From the "Economics Evaluation Report on Countermeasures for Harmful Atmospheric Pollutants" issued by Japan Environmental Management Association for Industry, February 2004.
*2 CO2 emission reductions: ¥1,510.4/tons Trading price of EU emission credit 2018 futures (€11.54/ton) in March 2018.
*3 Landfill costs for the waste product (¥100/kg)
*4 ¥200/ton for clean water supply, ¥200/ton for sewage water

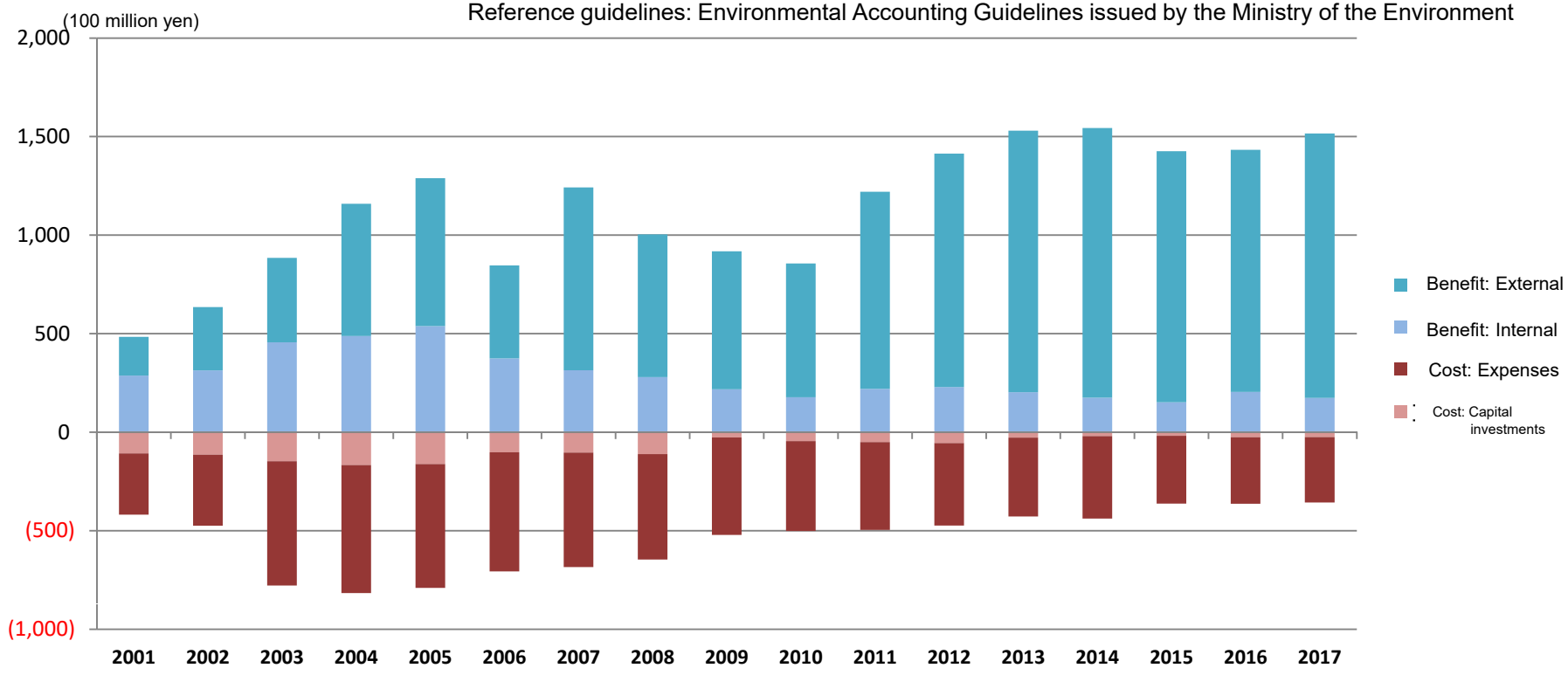
FUJIFILM
Value from Innovation

NEVER STOP

2-3. Initiatives in the environment field
- Environmental accounting

Transition of investments and benefits (value)

Reference guidelines: Environmental Accounting Guidelines issued by the Ministry of the Environment



Managing conservation-related costs and benefits in terms of monetary value and using the information as an important indicator for management's decision-making

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Fujifilm Group's CSR
2. Sustainable Value Plan 2030 (SVP2030)
   - 2-1. Overview of SVP2030
   - 2-2. Identifying priority issues (materiality)
   - 2-3. Initiatives in the environment field
   - 2-4. Initiatives in the healthcare field

FUJIFILM
Value from Innovation

NEVER STOP

2-4. Initiatives in the healthcare field
- SVP2030 and VISION2019

	Sustainable Value Plan 2030	VISION2019
Health	**Priority issue 1. Fulfilling unmet medical needs (Measures against cancer, infectious diseases, Alzheimer's Disease, etc.)** Developing and disseminating new treatments including regenerative medicine and cell therapies	**Pharmaceuticals and bio CDMO** ・Developing innovative drugs in areas of high unmet medical needs ・Achieving practical application of drug formulation technology, e.g. liposomes **Regenerative medicine** ・Using iPS cells for R&D of regenerative medicine products ・Expanding the contract culturing business and the culturing business globally
	Priority issue 2. Improving accessibility to medical services (Home care, healthcare in emerging countries, emergency medicine, etc.) (1) Reducing burden on doctors and medical staff by utilizing IT (2) Developing and disseminating a diagnostic system for infectious diseases to contribute to global health (3) Offering technical diagnosis training and spreading effective health practices to emerging countries	●**Medical systems** ・Offering solutions that combine various diagnostic devices with medical IT ・Promoting the medical ICT business that uses diagnostic imaging data ・Offering goods and services that meet the needs of emerging countries
	Priority issue 3. Contributing to identifying diseases at an early stage Spreading health checkup services with simplified testing to achieve early detection of medical conditions	
	Priority issue 4. Contributing to health promotion and beauty (1) Initiative for extending healthy life expectancy (2) Assisting women's empowerment	**Life science** ・Introducing foods with functional claims, targeting markets for lifestyle disease prevention and anti-aging ・Promoting *ASTALIFT In-Focus* to strengthen the brand
	Priority issue 5. Promoting management of healthy workplace Promoting healthy business management to maintain employees' vitality	**(Increasing employees' vitality)**

2-4. Initiatives in the healthcare field

Priority issue 2. Improving accessibility to medical services

(1) Reducing burden on doctors and medical staff by utilizing IT

Launched the healthcare AI technology brand, “REiLI” (April 2018)
Initiating joint research with AI technology vendors and medical institutes, e.g. partnering with Tokyo University’s spin-out venture, LPixel

(2) Developing and disseminating a diagnostic system for infectious diseases that contributes to global health

Completing Phase 1 development of the “TB-LAM” kit for fast and highly-sensitive diagnosis of tuberculosis, under development by Fujifilm and FIND* with funding from the Global Health Innovative Technology Fund (GHIT Fund), aimed at creating innovative therapeutics, vaccines and diagnostics originating from Japan

(3) Offering technical diagnosis training and spreading effective health practices to emerging countries

- Reaching an agreement to establish Saudi Arabia’s first “women’s health check center”
- Holding the first “Fujifilm Mammography World Conference”
- Participating in outbound business, ODA projects, etc.

* FIND (Foundation for Innovative New Diagnostics)： Switzerland’s not-for-profit organization aimed at developing and spreading new diagnostic technologies for infectious diseases, suitable for use in developing countries

Exchanging a memorandum of understanding with Princess Reema, who is responsible for promoting women’s sports at the General Sports Authority

Priority issue 3. Contributing to identifying diseases at an early stage

Spreading simplified testing services to achieve early detection of medical conditions

Today's takeaways

CSR has been established as part of the management foundation of the Fujifilm Group.

- Fujifilm has a CSR plan and a management plan that reflect social demands such as SDGs, and incorporate them into business activities.
- Fujifilm has track records and plans substantiated by data.
- In the environment field, in particular, Fujifilm identifies and manages its investments and their benefits quantitatively.
- Fujifilm draws up and implements plans that can "grow business" and "resolve social issues" at the same time.


FUJIFILM
Value from Innovation

FUJIFILM
Value from Innovation

NEVER STOP

ESG-related ratings and prizes

SRI指標構成銘柄への組み入れ

FTSE4Good Global Index

FTSE4Good

Indices incorporated by GPIF

FTSE Blossom Japan

S&P/JPX Carbon Efficient Index

MSCI

MSCI Japan Empowering Women (WIN)Select Index

CDP DISCLOSURE INSIGHT ACTION

Climate change : B
Water : B-
Supply chain : A

2018 健康経営優良法人 Health and productivity ホワイト500

The 2018 Certified Health and Productivity Management Organization Recognition Program

攻めのIT経営銘柄2018
Competitive IT Strategy Company

Prize	Rating
14th Toyokeizai CSR Ranking 2018	5th / 1,501 companies（565.2 point）
21th “Environmental Management”	18th / 395 companies (1st for 11 years in chemical/oil sector)
10th “Quality Management” 2018	18th / 193 companies (1st in chemical/textile/pharmaceutical sector)
22nd Environmental Communication	[Environmental reporting] Excellent sustainability

Integrated Report 2018 was elected as “excellent” and “improved” by GPIF’s asset management companies

FUJIFILM
Value from Innovation

NEVER STOP

3. Medical IT Systems Providing Solutions to Issues at Medical Front

February 19, 2019

Toshiyuki Nabeta

General Manager, Medical Systems R&D Center and
General Manager, IT Solution Division, Medical Systems Business Division

FUJIFILM
Value from Innovation

NEVER STOP

Today's Takeaways

1. Through the medical systems business mainly in the area of medical IT, FUJIFILM is contributing to resolving healthcare challenges such as the need for "early detection of diseases" and "improved accessibilities to medical services".

2. By promoting solutions to healthcare challenges, FUJIFILM is boosting its presence in the global market to achieve business growth.

3. FUJIFILM is leading the formation of an open medical AI platform in collaboration with medical / research institutions and AI vendors worldwide to realize the future where everyone can receive high-quality healthcare.

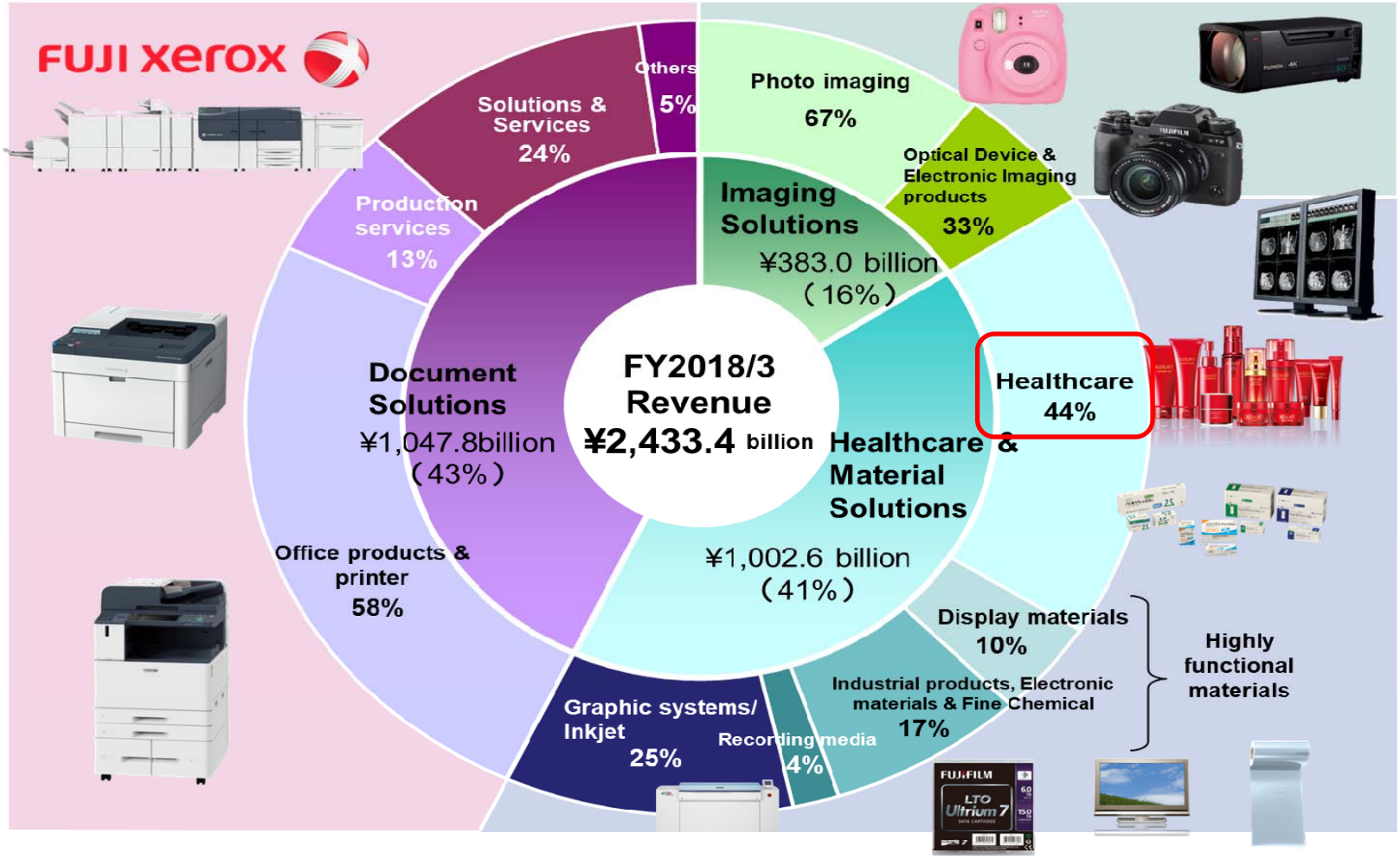
FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. **Overview of the Medical Systems Business**
2. **Healthcare Issues in Our Society**
3. **Solving Healthcare Issues with Medical IT Systems**
   - 3-1. Expanding / spreading services that reduce burden of healthcare workers
   - 3-2. Expanding / spreading diagnostic systems that contribute to global health
   - 3-3. Contribution to identifying diseases at an early stage: spreading double reading services
   - 3-4. Business expansion through solving healthcare challenges
4. **Use of AI Technology to Offer Greater Value**
   - 4-1. AI technology trends in healthcare
   - 4-2. REiLI, FUJIFILM's AI technology
   - 4-3. Building a medical AI platform

1. Overview of the Medical Systems Business ～Positioning



The largest segment that supports the growth of the healthcare business, which is FUJIFILM's priority business category

FUJIFILM
Value from Innovation

NEVER STOP

1. Overview of the Medical Systems Business ～ Products and services

Achieving growth by linking ”medical IT“ solutions to various products and services in “diagnostic X-ray imaging,” “endoscopy,” “ultrasound” and “IVD (in-vitro diagnostics)”

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Overview of the Medical Systems Business
2. **Healthcare Issues in Our Society**
3. Solving Healthcare Issues with Medical IT Systems
   - 3-1. Expanding / spreading services that reduce burden of healthcare workers
   - 3-2. Expanding / spreading diagnostic systems that contribute to global health
   - 3-3. Contribution to identifying diseases at an early stage: spreading double reading services
   - 3-4. Business expansion through solving healthcare challenges
4. Use of AI Technology to Offer Greater Value
   - 4-1. AI technology trends in healthcare
   - 4-2. REiLI, FUJIFILM's AI technology
   - 4-3. Building a medical AI platform

FUJIFILM
Value from Innovation

NEVER STOP

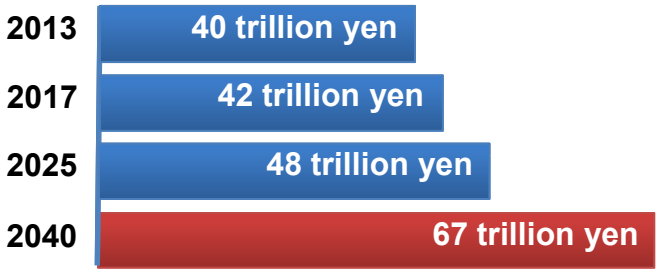
2. Healthcare Issues in Our Society

■ Growing healthcare cost from aging and population increase

- The average life expectancy of WHO member nations in 2016 was **72 years**, i.e. **four-year increase from 2008** (84 in Japan, 81 in UK, 79 in USA, 76 in China and 69 in India)[1]

- Average annual growth rate of **healthcare expenditures** (2014-2018)
  Western Europe 2.4%, North America 4.9%
  Asia and Australia 8.1%, Middle East and Africa 8.7%[2]

[Outlook of national healthcare expenditures (Japan)][5]



■ Regional disparity in medical services

- **Industrialized nations account for 77% of the world's healthcare expenditures** (2014).
  The ratio of developing nations is expected to rise from **23%** in 2014 to **32%** in 2020.[3]

Sources:

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. "Trend of healthcare expenditures in FY2017" and "Future outlook of social security toward 2040," Research Section, Health Insurance Bureau, Ministry of Health, Labor and Welfare

■ Shortages of doctors, nurses and other healthcare workers and their harsh working conditions (supply-demand gap)

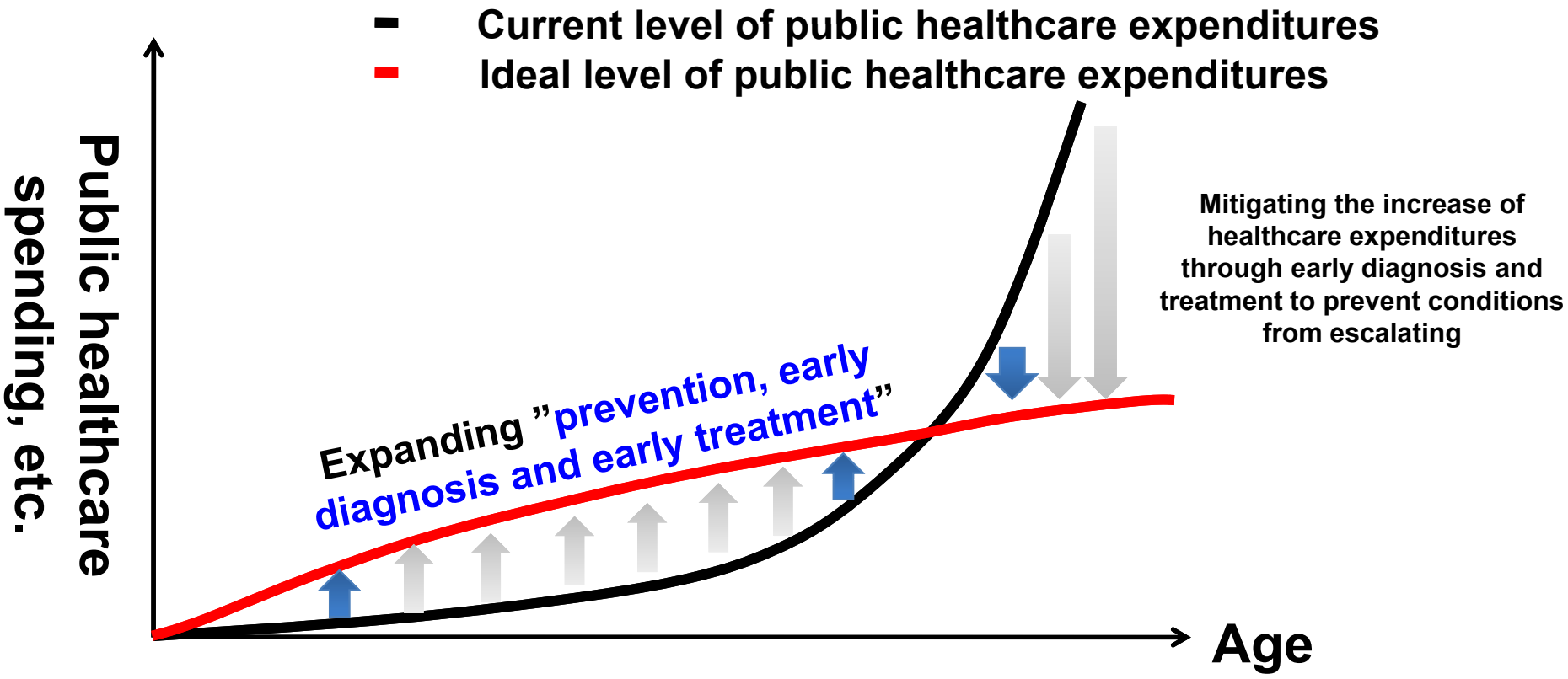
- Shortages of **17 million** healthcare workers around the world (**11 million in Africa and Southeast Asia alone**)[4]

Increase in healthcare and other social spending, and shortages of talents have emerged as urgent issues world wide

FUJIFILM
Value from Innovation

NEVER STOP

2. Healthcare Issues in Our Society



Shifting the focus from "treatment of exacerbated conditions" to "prevention, early diagnosis and early treatment" to reduce public healthcare cost

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

1. Overview of the Medical Systems Business
2. Healthcare Issues in Our Society
3. **Solving Healthcare Issues with Medical IT Systems**
   - 3-1. Expanding / spreading services that reduce burden of healthcare workers
   - 3-2. Expanding / spreading diagnostic systems that contribute to global health
   - 3-3. Contribution to identifying diseases at an early stage: spreading double reading services
   - 3-4. Business expansion through solving healthcare challenges
4. Use of AI Technology to Offer Greater Value
   - 4-1. AI technology trends in healthcare
   - 4-2. REiLI, FUJIFILM's AI technology
   - 4-3. Building a medical AI platform

FUJIFILM
Value from Innovation

NEVER STOP

3-1. Expanding / spreading services that reduce burden of healthcare workers

Medical imaging and information management system (PACS)

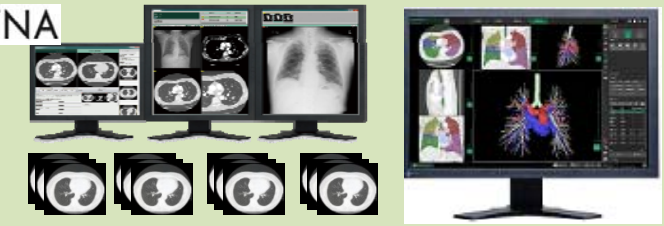
Picture
Archiving and
Communication
System

SYNAPSE Series of medical imaging and information management systems

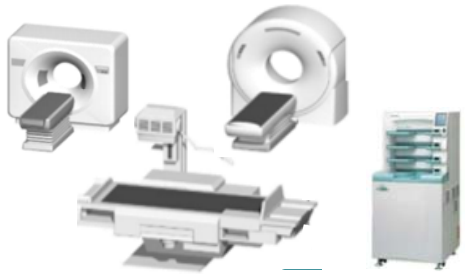
Medical imaging and information management system
SYNAPSE

3D image analysis system
SYNAPSE VINCENT

Vendor-neutral archive system
SYNAPSE VNA

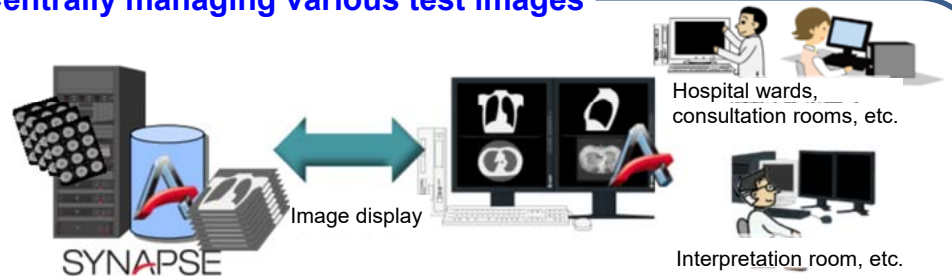


Scanning



X-ray/CT/MRI scans

Centrally managing various test images



Searchable and referenceable anytime and anywhere to support swift diagnosis

Reducing healthcare workers' burden by adopting SYNAPSE series of medical imaging and information management systems as a platform for storing and managing image data within hospitals

FUJIFILM
Value from Innovation

NEVER STOP

3-1. Expanding / spreading services that reduce burden of healthcare workers

Wales regional hospitals

Osaka University Hospital

Juntendo University Hospital

Yale New Haven

US Military Hospital

Europe, Middle East and Africa

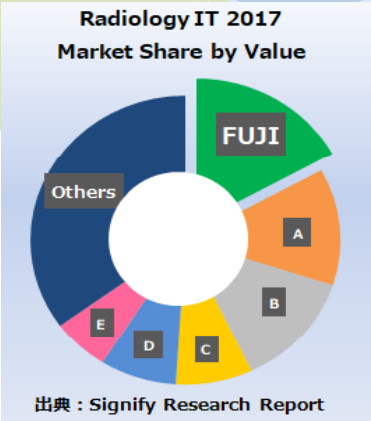
North America

Southeast Asia and Australia

Japan
2,700 sites*
No.1 market share

Central and South Americas

SaludDigna
Mexican hospital group



New South Wales hospitals (Sydney)

*As of December 2018

SYNAPSE is used at 5,100 sites worldwide*, getting wonderful feedbacks from key hospitals in various areas and captured the world's top market share (FY2017).

FUJIFILM
Value from Innovation

NEVER STOP

3-2. Expanding / spreading diagnostic systems that contribute to global health

Improving healthcare environment of emerging countries（FY2015-2017）

Under the Japanese government's initiative to assist international deployment of healthcare technologies and services, FUJIFILM has participated in 27 projects in 13 countries since 2015.
Japanese medical check up systems have been introduced to emerging countries, improving their healthcare environment.

<Examples of deploying FUJIFILM's medical IT systems and medical equipment>

- **Signing a memorandum of understanding with Saudi Arabia's General Sport Authority in January 2018 on the establishment of the country's first "Women's Health Center"**

- **Assisting the improvement of healthcare environment in five Mekong nations (Thailand, Laos, Myanmar, Cambodia and Vietnam), Indonesia, Brazil, etc. by transferring diagnostic technologies or building a remote diagnosis model**

Improving the healthcare environment of emerging countries to boost the company's market presence

FUJIFILM
Value from Innovation

NEVER STOP

3-2. Expanding / spreading diagnostic systems that contribute to global health

Improving the healthcare environment of emerging countries（FY2018-2019： Mexico）

- Evaluating a cloud-based and AI-powered radiographic image reading system across Mexico
- Assisting the stable delivery of high-quality diagnosis without a massive capital investment or employment of specialists

Mexico's healthcare challenges and needs

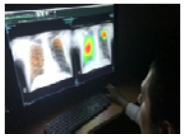
- Serious doctor shortages creating a risk of failing to identify diseases
- Healthcare service disparity between regional communities and large cities, which are dotted across vast national land

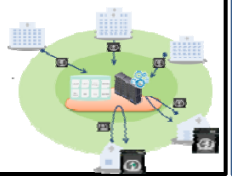
System implementation across Mexico is targeted in collaboration with Salud Digna, one of Mexico's largest imaging centers

SaludDigna
La salud es para todos

Solving issues in countries that lack healthcare resources

Offering AI-powered diagnostic imaging services to prevent failure to identify diseases
+
Offering the services above on the cloud basis to build a national network
↓
Providing access to high-quality healthcare anywhere and anytime





Contribution to FUJIFILM's business growth

- Boosting FUJIFILM's presence in Mexico
- Accumulating know-how obtained in Mexico to build advanced services for emerging markets
- Considering service deployment to other emerging countries

Assisting delivery of high-quality diagnosis in areas with limited medical resources
Designing business model packages and deploying them worldwide
to contribute to resolving disparity in healthcare standards

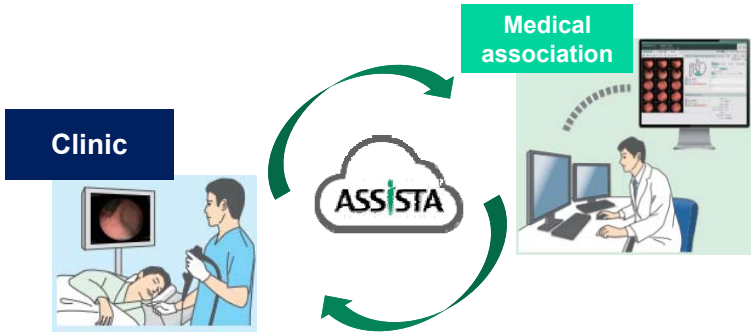
FUJIFILM
Value from Innovation

NEVER STOP

3-3. Contribution to identifying diseases at an early stage: spreading second reading services

Assisting local governments in their effort to build public gastric cancer screening services (population screening)

- Offering second reading system, designed around cloud-based ASSISTA system for medical institutes
  Connecting local clinics and specialists registered in medical associations to provide an advanced level of second reading



Healthcare challenges and needs in Japan

- Skyrocketing healthcare expenditures due to population aging, etc.
- Spreading and expanding double reading, defined in government guidance
- Shortages of specialists for gastric cancer, etc.

Contributing to solving healthcare challenges

- Providing second reading by specialists to contribute to early detection of gastric cancer
- Evenly providing advanced healthcare to municipalities
- Mitigating the increase of healthcare expenditures through early detection and early treatment

Contributing to FUJIFILM's business growth

- Expanding the system to lung / breast cancer screening
- Offering a wide range of FUJIFILM's medical equipment products to medical institutions in jurisdictions enrolled in the program
- Using obtained know-how to consider introducing the system overseas

Improving the early detection rate of diseases and accelerating the growth of the medical systems business

FUJIFILM
Value from Innovation

NEVER STOP

3-4. Business Expansion through Solving Healthcare Challenges

Medical IT forms the foundation for all segments to drive the growth of the medical systems business

FUJIFILM
Value from Innovation

NEVER STOP

Agenda

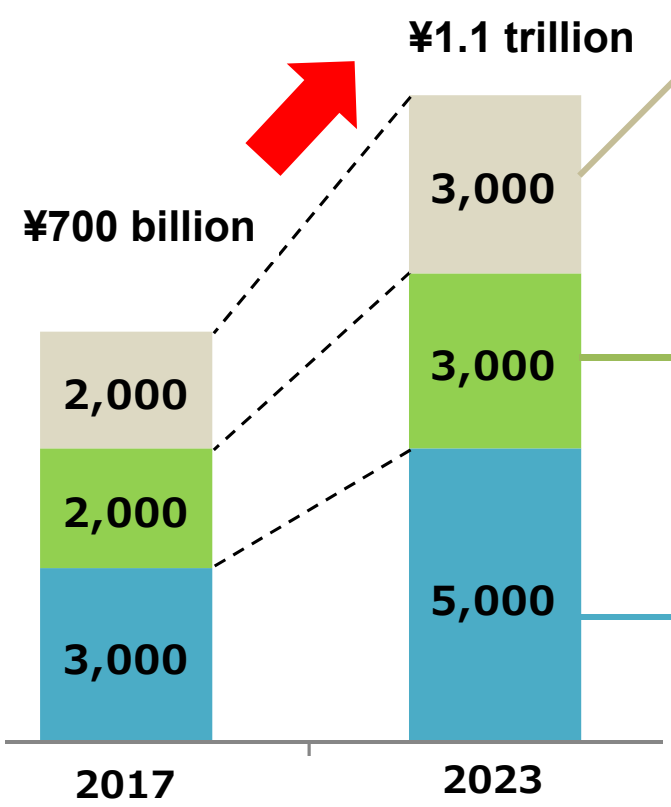
1. Overview of the Medical Systems Business
2. Healthcare Issues in Our Society
3. Solving Healthcare Issues with Medical IT Systems
   - 3-1. Expanding / spreading services that reduce burden of healthcare workers
   - 3-2. Expanding / spreading diagnostic systems that contribute to global health
   - 3-3. Contribution to identifying diseases at an early stage: spreading double reading services
   - 3-4. Business expansion through solving healthcare challenges
4. **Use of AI Technology to Offer Greater Value**
   - 4-1. AI technology trends in healthcare
   - 4-2. REiLI, FUJIFILM's AI technology
   - 4-3. Building a medical AI platform

FUJIFILM
Value from Innovation

NEVER STOP

Medical IT market pioneered with AI technology

Projected scale of medical IT global market



Treatment support

Volume analyzer
SYNAPSE VINCENT

Medical care support

Treatment support solution — Yahgee
Integrated treatment solution — CITA ClinicalFinder
Endoscopic data management system — NEXUS

Diagnostic imaging

SYNAPSE

Source：Signify Research, iData Research Inc., FUJIFILM data

Strong market growth is anticipated in all segments i.e. treatment support, diagnostic support and diagnostic imaging

FUJIFILM
Value from Innovation

NEVER STOP

4-1. AI technology trends in healthcare

■ Japan: Ministry of Health, Labor and Welfare (MHLW)
The ministry's advisory panel for promoting AI use in the health and medical field (6/27/2017)

Selecting six priority fields for AI development
1) Japan's strengths in health and medical technology in these fields
2) Challenges that Japan must address in these fields

Six priority fields		
	Genomic medicine	Diagnostic imaging support
	Diagnosis and treatment support	Pharmaceutical development
	Nursing care and dementia	Surgery assistance

MHLW: Report by the advisory panel for promoting AI use in the health and medical field

■ Overseas： RSNA2018 latest survey results
・Increase in the number of companies exhibiting AI-related contents; AI dominating themes by academic societies

	2016	2017	2018
Number of presentations by academic societies	42	151	216
Number of companies exhibiting AI	5	49	105

・ Title of 2018 keynote
"Medical practitioners and technologists who cannot use AI will be eradicated by those who can."
・ AI with various forms of deep learning is demonstrating performance that surpasses diagnosis by radiologists, but it has yet to be incorporated into actual workflows.

Growing expectations for AI development in the healthcare sector in and outside Japan

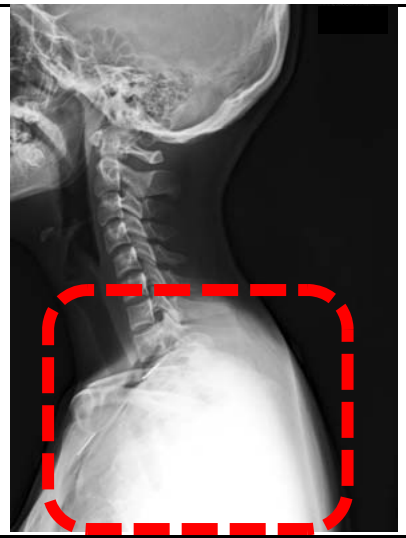
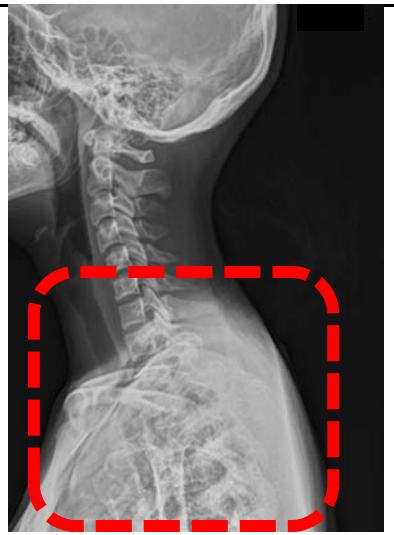
FUJIFILM
Value from Innovation

NEVER STOP

4-1. AI technology trends in healthcare

Results of in-house trials for AI on chest X-ray

■ **"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.

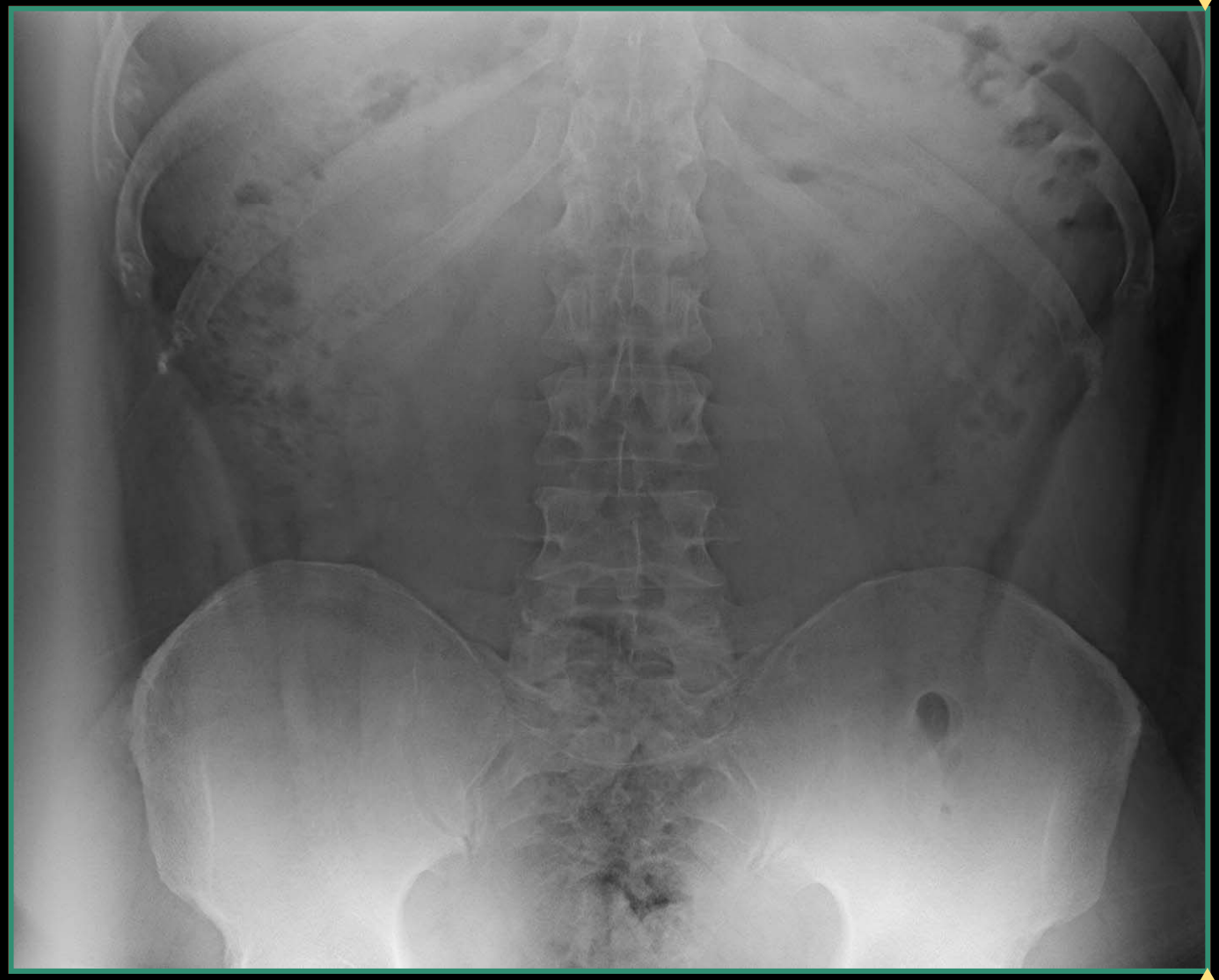
Quality of training image data	**Unclear image** 	**Clear image** 
Volume of training data	**210,000 cases**	20,000 cases
Sensitivity	94.9%	94.9%
Specificity	**20%**	87.5%

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

Technology for restoring sub-grade medical image data that does not provide easy diagnosis



Using FUJIFILM's advanced image processing technology to bring sharpness to images and improve AI accuracy

FUJIFILM
Value from Innovation

NEVER STOP

FUJIFILM's advanced image processing technology

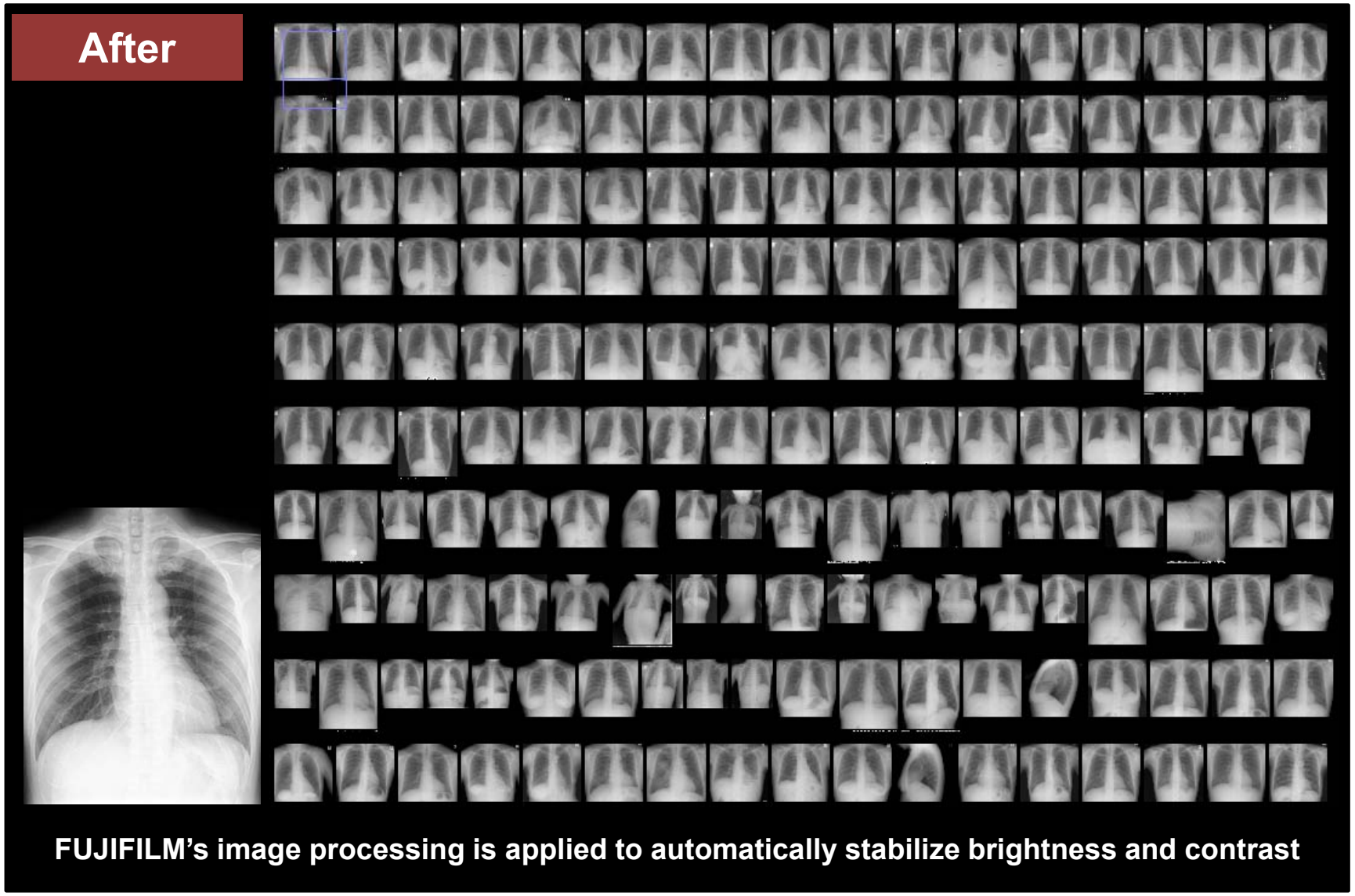
Before

Brightness and contrast are affected by subject's body thickness, X-ray dose and positioning

FUJIFILM
Value from Innovation

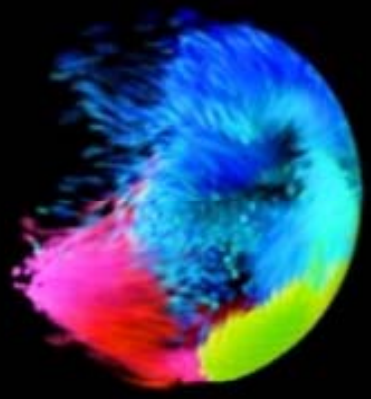
NEVER STOP

FUJIFILM's advanced image processing technology



4-2. REiLI, FUJIFILM's AI technology

FUJIFILM AI Platform



REiLI

Combining cutting-edge image processing technology FUJIFILM nurtured for over 70 years with latest AI technology to create new values in next-generation image diagnostics

Unveiling the AI technology brand “REiLI” in April 2018

FUJIFILM
Value from Innovation

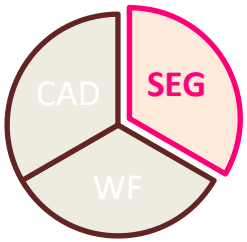
NEVER STOP

4-2. REiLI, FUJIFILM's AI technology

REiLI

REiLI's three technological approaches

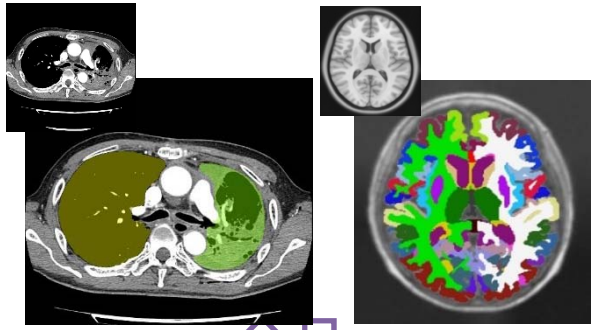
Approach 1 — Organ Segmentation



Assisting the identification of anatomical structure

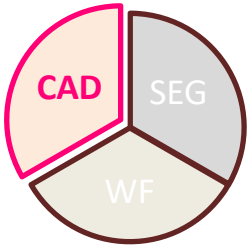
▶Automatically recognizing anatomical structure

Automatically recognizing anatomical structure **without being affected by individual shape differences, medical conditions or use of contrast medium**



Feedback

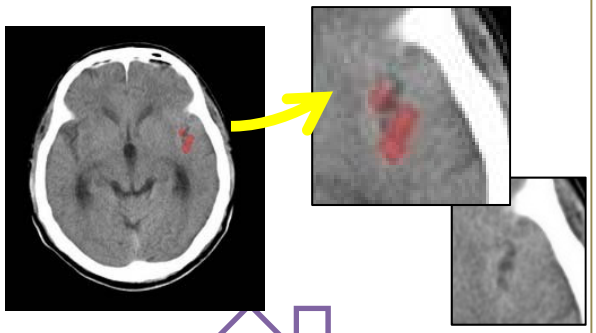
Approach 2 — Computer-aided Diagnosis



Assisting the detection and measurement of lesions

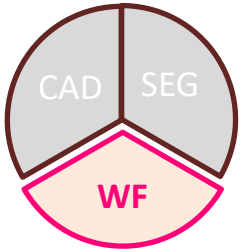
▶ Automatically detecting lesions → Quantification

Automatically detecting lesions in images to **reduce the risk of oversight**; Expected to **shorten time for lesion measurement** and **mitigate variation in accuracy**



Feedback

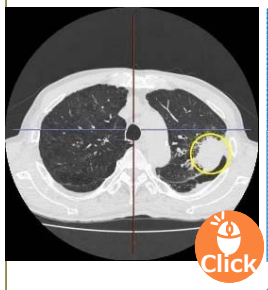
Approach 3 — Streamlined Reading Workflow



Assisting the compilation of reports

▶ Automatically generating a report on findings

Automatically generating a suggested findings statement for lesions specified in an image and **reflecting it to a report with a click of a button**



An irregularly-shaped and spiculated tumor, measuring up to 4.2cm horizontally, is observed under left pulmonary pleura. It is touching the chest wall with pleural indentation, but no infiltration is observed…

Feedback

Gathering training data exponentially and reflecting it to AI technology

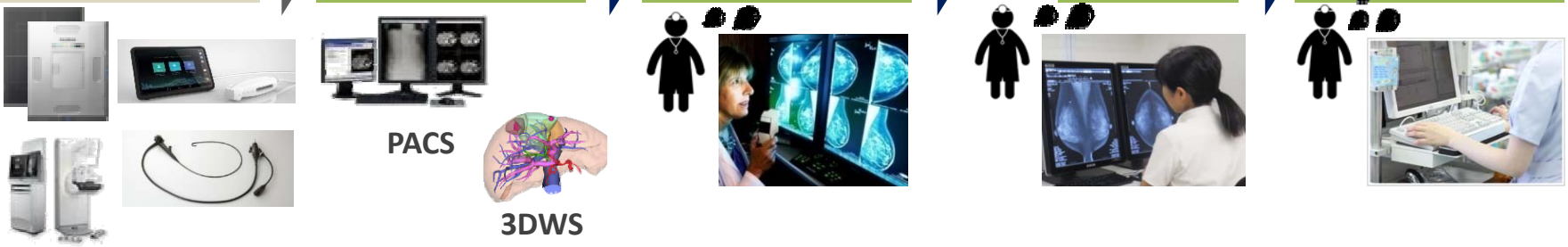
FUJIFILM
Value from Innovation

NEVER STOP

4-2. REiLI, FUJIFILM's AI technology

Workflow using the conventional PACS

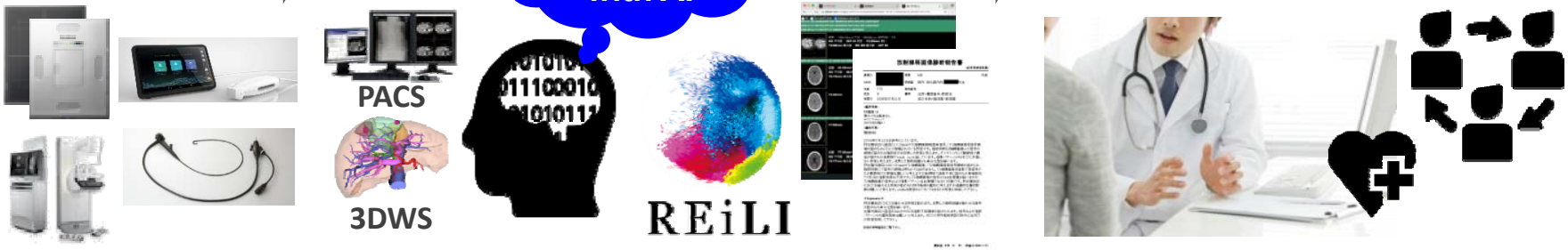
Examination → Visualization → Detection → Categorization → Report



Workflow using PACS with AI

Examination → Visualization → Report

Semi-automation with AI



AI technology creating more time for doctors

Using AI technology to semi-automate the workflow to reduce doctors' workload and improve speed and accuracy, creating more time for diagnosis

FUJIFILM
Value from Innovation

NEVER STOP

4-2. REiLI, FUJIFILM's AI technology (lungs)

Only using X-ray images to improve accuracy in detecting abnormality

Rate of detecting significant chest abnormality **97-99%※**

Results of in-house trials

※ Under co-development with Lunit

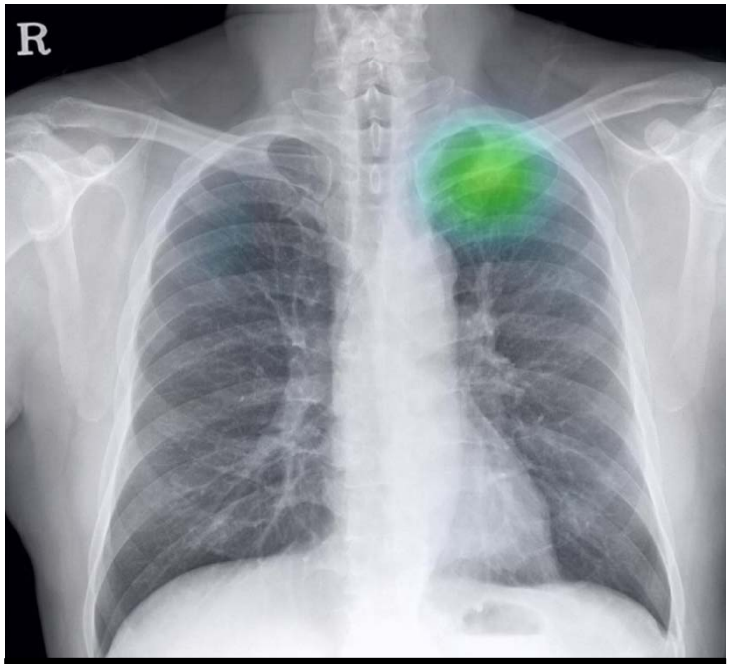
REiLI

Thoracic radiologists

Board-certified radiologists

Non-radiology physicians

Detection of Major Chest Abnormalities (N=200)



Lung cancer that 11 out of 15 specialists failed to diagnose. The lesion is hidden behind a clavicle, making it difficult to visually identify on X-ray images.

Making AI learn structural data combining X-ray images and CT scans can reduce the risk of overlooking legions on X-ray images -> early detection

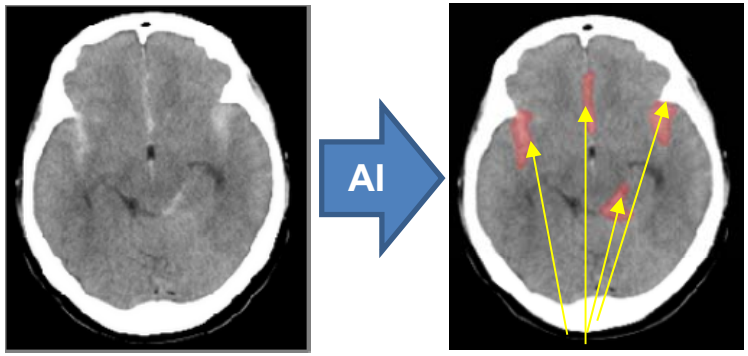
FUJIFILM
Value from Innovation

NEVER STOP

4-2. REiLI, FUJIFILM's AI technology (brain)

Developing technologies to detect cerebral hemorrhage and cerebral infarction with CT scans alone
(Enabling the detection of cerebral infarction or minor cerebral hemorrhage before conducting time-consuming MRI)

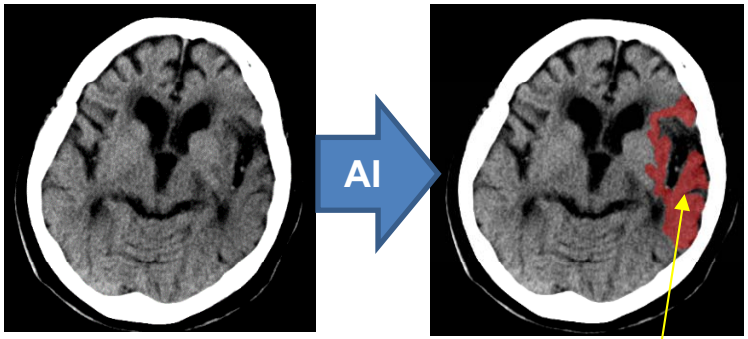
Patient with suspected cerebral hemorrhage



Non-contrast CT

Areas of suspected cerebral hemorrhage (red)

Patient with suspected cerebral infarction



Non-contrast CT

Area of suspected cerebral infarction (red)

Results of advance accuracy verification compared to specialists' visual assessment

REiLI

Detecting subarachnoid hemorrhage	100%
Detecting cerebral infarction	88%

Subarachnoid hemorrhage (4 specialists, 50 cases),
cerebral infarction (3 specialists, 31 cases)

Making AI learn structural data combining CT scans and MRI scans can reduce the risk of overlooking lesions on CT scans -> early detection

FUJIFILM
Value from Innovation

NEVER STOP

4-2. REiLI, FUJIFILM's AI technology

Existing assets (technology, know-how, structure)

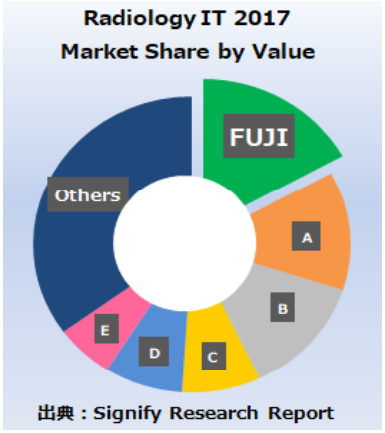
SYNAPSE

SYNAPSE VINCENT

- Experiences and insights from working with medical images for many years
- Massive image data and research performance

Image Intelligence™

- Advanced image processing technology and know-how
- R&D structure that supports image processing technology



- World's No.1 market share
- Installed in 5,100 sites

Offering new values with AI technology

REiLI

Combining AI technology with image processing technology / know-how accumulated over many years, massive amount of high-quality image data and No.1 market share / number of installation sites to provide new values wide and quick

FUJIFILM
Value from Innovation

NEVER STOP

4-3. Building a medical AI platform

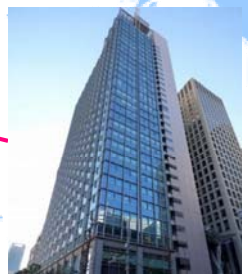
<Global AI-PACS R&D structure: Hybrid approach with Japanese and US sites>

FUJIFILM
Nishiazabu, Japan
Commercialization: Medical R&D center

Site for developing medical IT products, including 3D functions and AI algorithms (2003~)

FUJIFILM
Marunouchi, Japan
Element technologies: Corporate R&D center

Site of R&D for next-generation AI technology (2018~)



Brain(s)
FUJIFILM Creative AI Center

FUJIFILM Medical USA
North Carolina, USA
IT platform development: PACS R&D center

Site for developing next-generation AI platform (1998~)

PACS platform development site is in the United States, which is the leading country in medical IT, and sites for element development and commercialization of next-generation AI technology are in Japan

FUJIFILM
Value from Innovation

NEVER STOP

4-3. Building a medical AI platform

Clinical partners (medical and research institutions)

Major medical institutes / universities abroad
Indiana University School of Medicine etc.

AIP Center for Advanced Intelligence Project

Major university hospitals in Japan

REiLI

Technical partners (AI vendors)

LPixel Japan

Lunit South Korea

AlgoMedica USA

Riverain TECHNOLOGIES USA

koios USA

* Showing only some of the examples

Partnering with medical / research institutes and vendors with superior AI technology at home and abroad to accelerate product development, making it possible to offer AI-based values more broadly

FUJIFILM
Value from Innovation

NEVER STOP

4-3. Building a medical AI platform

LPixel

(Capital investment in 10/2018)

Promoting co-development in the fields of endoscopy and radiation.
Assisting clinical evaluation of cerebral arteries at SYNAPSE users

AlgoMedica

(Marketing alliance in 12/2018)

A venture with image processing AI to reduce radiation exposure in CT scans by 1/10.
Planning on incorporating the technology to CT and PACS supplied by FUJIFILM.

Joint research with academia and hospitals, and participation in national projects

Openly promoting joint research with FUJIFILM, and incorporating its achievements into FUJIFILM's IT & medical devices for commercial and social implementations to achieve early social contribution.

Radiology viewer

- Systemic organ segmentation
- Cerebral hemorrhage
- Cerebral infarction
- Lung cancer
- Bone metastases
- …
- Cerebral aneurysm
- …
- Assisting low radiation-dose (noise reduction)
- 2D lung cancer
- 2D tuberculosis
- …
- 2D mammography

Endoscopy viewer

- Abdominal LCI Real-time
- Large intestinal LCI Real-time
- Esophagus white light Real-time
- …
- Assisting Endoscopic reporting
- …

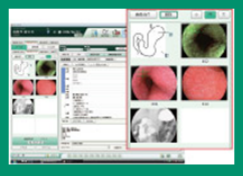
CT/MR | **Chest X-ray** | **Mammography**

Medical imaging and information system for radiology (PACS)

SYNAPSE 5

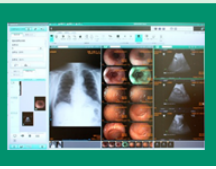
For hospitals
Endoscopic information management system

NEXUS



For clinics
Diagnostic imaging workstation

電子カルテ連携型画像診断ワークステーション
C@RNACORE



REiLI

FUJIFILM
Value from Innovation

NEVER STOP

Medical systems business for creating the future

Future of healthcare that FUIFILM wants to realize through AI

Treatment support

Offering optimum treatment for a variety of medical conditions
Adding on information from genetic analysis and far-reaching medical papers to create a therapeutic AI-PACS systems that assist doctors in making therapeutic judgments

Part of project at Research Center A

Diagnostic imaging

Making early diagnosis to reduce treatment costs and workload
Planning on developing the next-generation AI-PACS, which uses various medical images to detect possible diseases to assist radiologists' judgment

Part of joint research at University Hospital B

Medical care support

Automating workflow to provide error-free quality healthcare
Creating the general diagnostic AI-Workstation to stem medical errors such as patient mix-up, mistakes in exams, surgical sites and drug administration

Part of project at University Hospital C

Realizing the future where healthcare workers at medical front are free from workload and everyone can access high-quality healthcare at low cost

FUJIFILM
Value from Innovation

NEVER STOP

Summary

✓**Expanding business through resolving healthcare challenges**
Contributing to resolving healthcare challenges through the medical systems business, especially in the field of medical IT, while achieving business growth in the global market

✓**Using AI and IoT to create values for sustainable business growth**
Expanding business by using AI and IoT to create values, so as to achieve goals in the mid-term management plan, i.e. CAGR 7% in net sales and continuous two-digit operating margin

✓**Adopting open strategy to accelerate the delivery of values in medical AI**
Partnering with medical / research institutes and AI vendors to accelerate the development of AI technology, targeting to realize the society where anyone can receive high-quality medical services

Accelerating the development, usage and rollout of AI technology Through medical systems business, contributing to the solution for healthcare challenges such as "early detection of diseases" and "improved accessibilities to medical services".


FUJIFILM
Value from Innovation