



Fujifilm Group Overview

January, 2024

FUJIFILM Holdings Corporation



FUJIFILM
Value from Innovation

Forward-looking statements

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.

Company Profile

Company profile

Company Name	FUJIFILM Holdings Corporation
Representative	President and CEO, Representative Director Teiichi Goto
Date Established	January 20, 1934
Fiscal year-end	March 31
Capital	¥ 40.4 B (As of March 31, 2023)
Consolidated Revenue	¥ 2,859.0 B (FY2022)
Net Income Attributable to FUJIFILM Holdings	¥ 219.4 B (FY2022)
Number of Group Companies	273 (As of March 31, 2023)
Consolidated Employees	73,878 (As of March 31, 2023)

Stock Information

As of January 1, 2024

Stock Code	4901
Stock Exchange Listings	Tokyo
Minimum Trading Units	100
Number of shares issued	414,625,728
Authorized Number of Shares	800,000,000
Ordinary General Meeting of Shareholders	The end of June
End-of-term registration deadline for dividend payment	March 31
Mid-term registration deadline for dividend payment	September 30
Shareholder Registry Administrator	Sumitomo Mitsui Trust Bank, Limited



Fujifilm Group's Purpose

Giving our world more smiles

We bring diverse ideas, unique capabilities,
and extraordinary people together to change the world.

FUJIFILM
Value from Innovation



Corporate Slogan

Value from Innovation

We approach all our activities with an “open, fair and clear” corporate culture.

Business Fields of Fujifilm Group

Imaging

- Consumer Imaging
- Professional Imaging

¥ 410.3 B 14.4%

¥ 266.9 B 65%

¥ 143.4 B 35%



Healthcare

- Medical Systems
- Bio CDMO
- LS Solutions

¥ 917.9 B 32.1%

¥ 611.1 B 67%

¥ 194.2 B 21%

¥ 112.6 B 12%



Business Innovation

- Office Solutions
- Business Solutions

¥ 838.1 B 29.3%

¥ 555.5 B 66%

¥ 282.6 B 34%



Materials

- Electronic Materials
- Display Materials
- Other Advanced Materials
(Industrial Products, Fine Chemicals and Recording Media)
- Graphic Communication

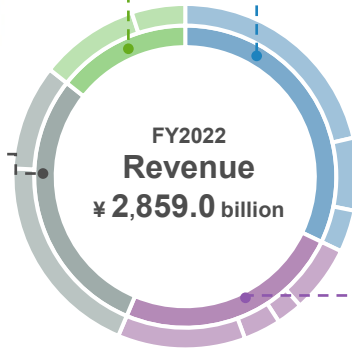
¥ 692.7 B 24.2%

¥ 180.6 B 26%

¥ 70.1 B 10%

¥ 100.0 B 14%

¥ 342.0 B 49%

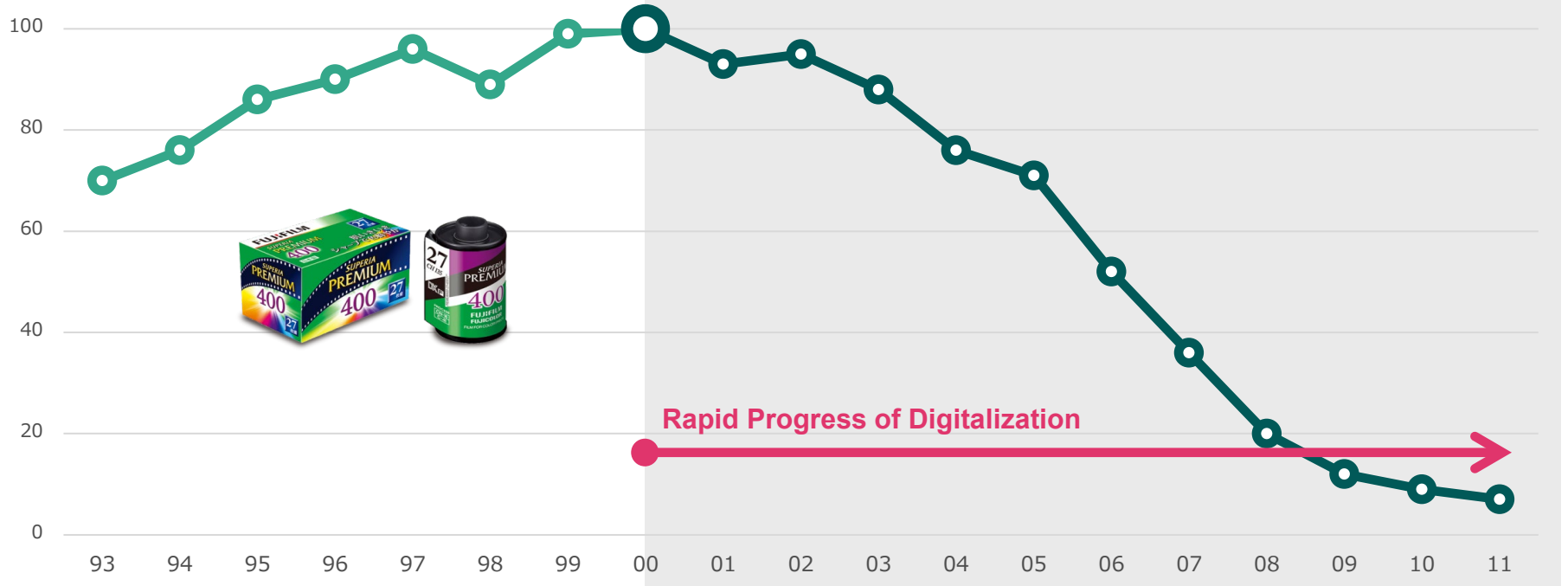


Core Business Crisis

Digitization led to a rapid decline in the demand for color film, our group's core business.

Trends in total world demand for color film

Index is based on 100 for FY2001/3("00")



Defining New Growth Strategies

Invest management resources to growing markets such as Healthcare and Advanced Materials.

3 Keys to Determine Priority Businesses

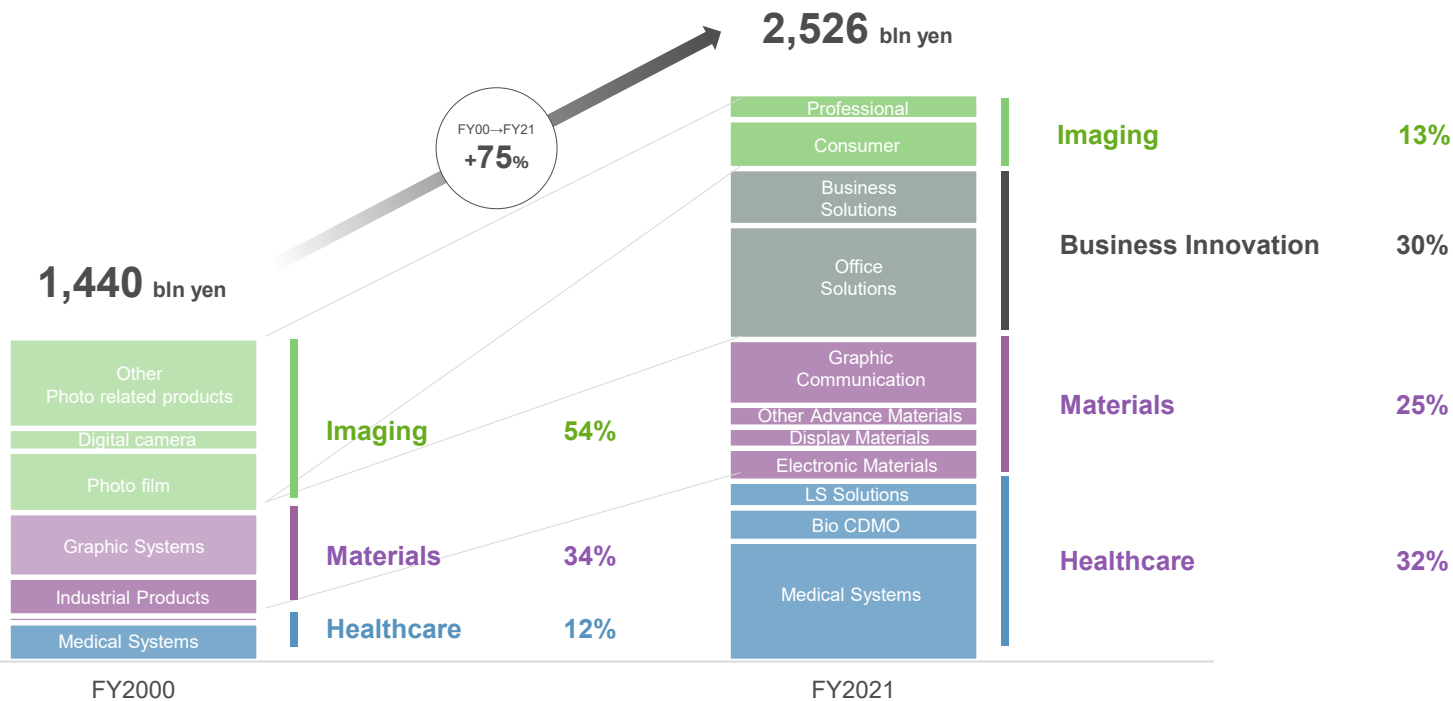


Fujifilm's Technologies in Four-quadrants (Conducted in 2000's)

	Existing Market	New/Adjacent Market
New Technologies		
Existing Technologies		

Change in Business Portfolio

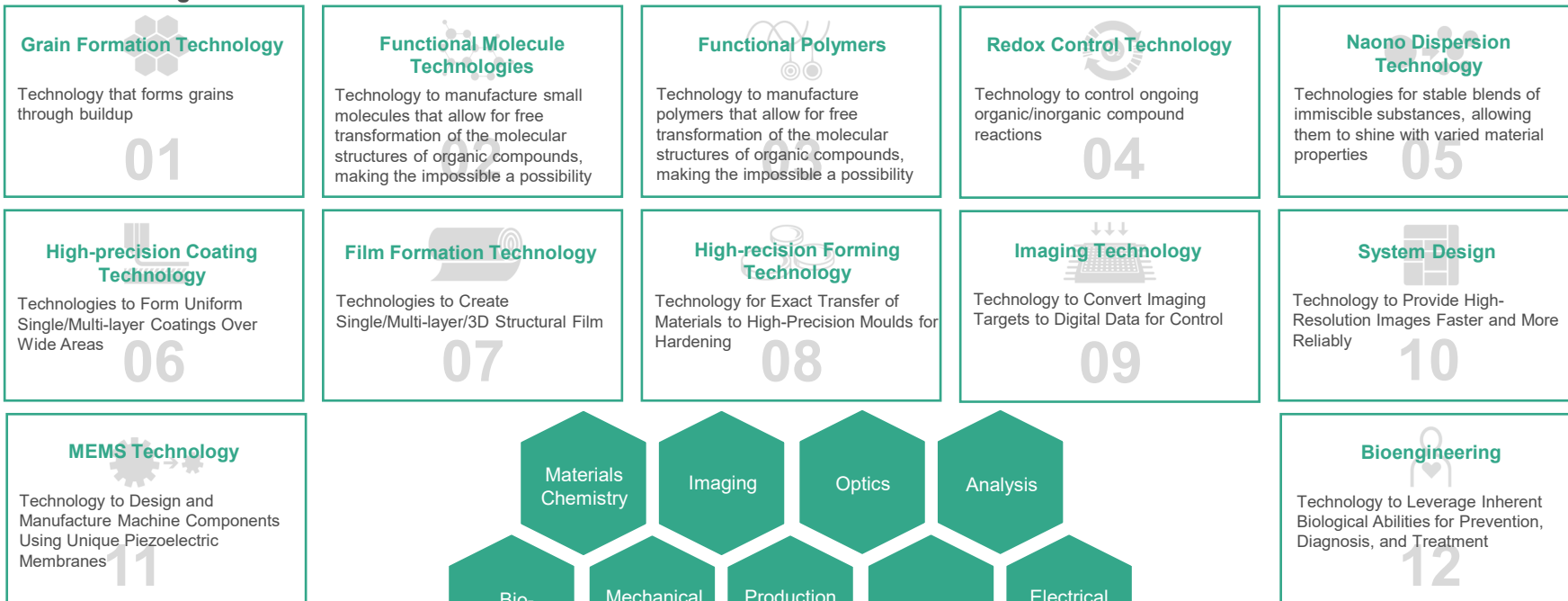
Undertook a large-scale business restructuring from 2000s onward
The revenue structure has changed substantially by enhancing the business portfolio and accelerating growth



Fujifilm's Core Technologies

Technologies that form the core for the creation of sustained competitive advantage, built atop fundamental technologies.
Technologies that have the potential to form the core of "co-creation" of new value.

Core Technologies



Base Technologies

Goals in SVP2030

We will contribute to the realization of a sustainable society through realizing goals set forth in “Sustainable Value Plan 2030 (SVP2030)” by promoting priority measures listed in VISION2023, announced in April 2021.

Strengthen our business portfolio and build a foundation for the next leap forward.

Accelerate growth in healthcare and advanced materials and build a business foundation for sustainable growth.

Help realize a sustainable society by resolving social issue through innovative technologies, products and services.

VISION 2019

Revenue	\$ 2,315.1 B
Operating income	\$ 186.6 B
CO ₂ emission reduction (Compared with FY2013)	25%

VISION 2023

Revenue	\$ 2,700.0 B
Operating income	\$ 260 B
CO ₂ emission reduction (Compared with FY2019)	11%

SVP 2030

Revenue	\$ 3,500 B ^{>}
CO ₂ emission reduction (Compared with FY2019)	50%

Realize a Sustainable Society
Value From Innovation

Specific action plan to achieve the goals set forth in the SVP 2030

Next page for SVP2030: Priority Areas/Priority Issues(Materiality)

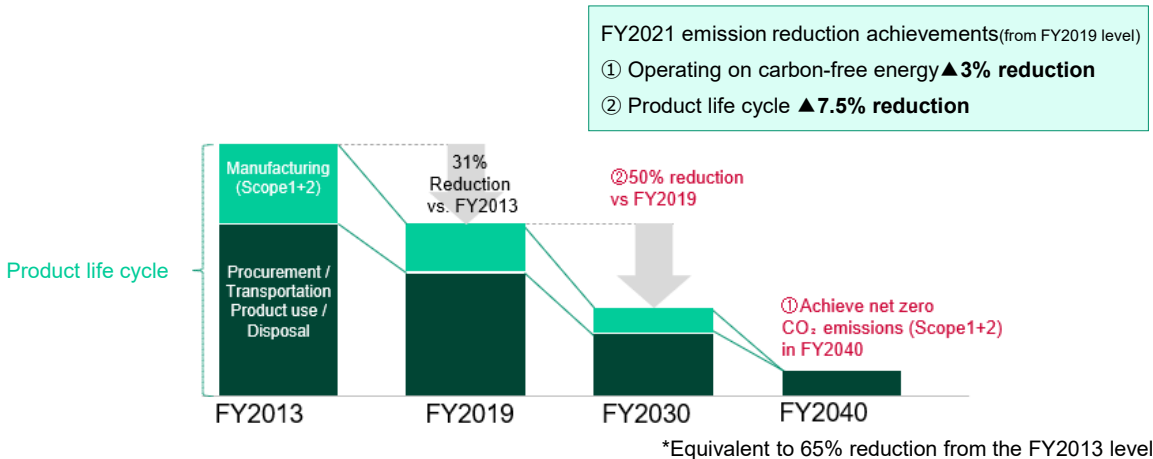
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ESG | Initiatives for Environment : Decarbonization Targets and Basic Policy

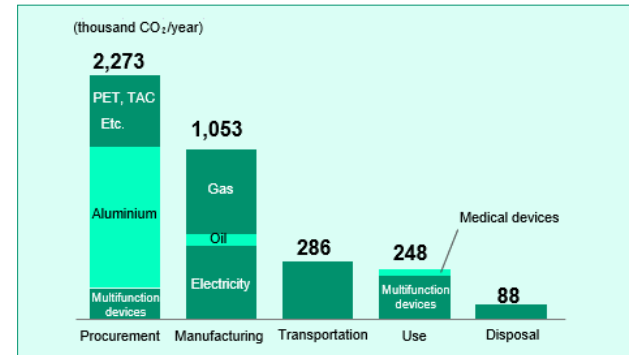
Fulfilling supply responsibility to meet social needs, achieving low-carbon operation in existing businesses and developing / offering low-carbon solutions to contribute to building a decarbonized society, rather than merely withdrawing from businesses with high carbon emissions

Fujifilm Group's decarbonization targets

- ① Fully operating on carbon-free energy and achieving **net zero CO₂ emissions by FY2040**
- ② Reducing CO₂ emissions across the entire product life cycle from the procurement of raw materials to manufacturing, transportation, use and disposal **by 50% (from FY2019 level) by FY2030**



GHG emissions by product life cycle stage (FY2021)

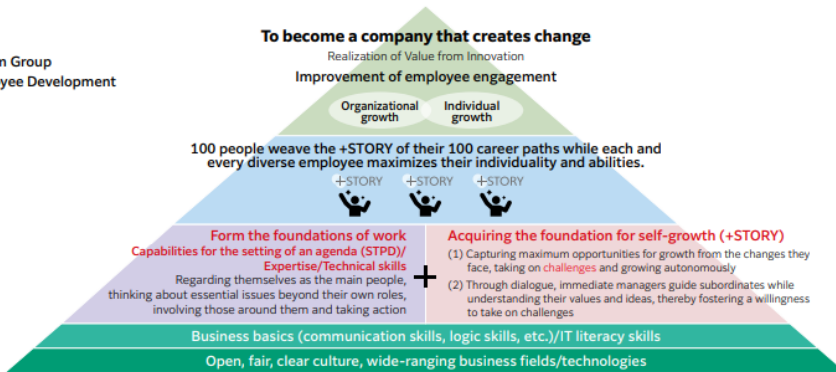


ESG | Initiatives for Society : Basic Policy of HR Capital

The Fujifilm Group, which has successfully transformed its business structure, is built on the mindset of continuing to take on challenges without fearing changes. This is the source of its strength. Focus on initiating an upward spiral with “individual growth” and “organizational growth,” and foster a workforce that can seize a change as a growth opportunity to achieve a high level of employee engagement.

Fujifilm Group’s HR development Vision

Fujifilm Group
Employee Development



Employee engagement survey

- In December 2022, Fujifilm started the “Fujifilm Employee Engagement Survey” for all Group companies to identify the current status and future tasks in relation to corporate philosophy, brand understanding, workplace environment, compliance awareness, health and other aspects of Fujifilm Group’s vision.
- The survey is used to help the Group, each regional HQs, each Group company and each Division identify their respective tasks and promote measures to build a high level of engagement within the organizations. This should lead to a long-term growth of Fujifilm and its employees.

+STORY

+STORY

- There is emphasis on encouraging each employee to see changes positively as a growth opportunity and take on challenges such changes bring. The “+STORY” self-growth support program facilitates dialogs between workers and their supervisors.

ESG | Initiatives for Governance 1/2 : Basic Policy and Structure

Basic Policy for Corporate Governance

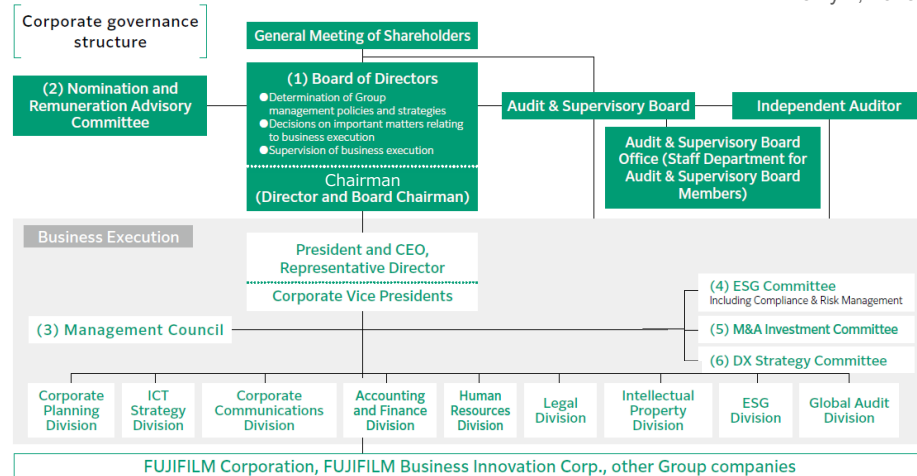
The company aims to achieve sustainable growth and increase the corporate value of the Fujifilm Group while contributing to the sustainable development of society by conducting sincere and fair business activities. The Company has positioned corporate governance as an important management priority to achieve this aim.

Institutional Design	<ul style="list-style-type: none"> Adopted a system with an Audit & Supervisory Board Established the Nomination and Remuneration Advisory Committee as an arbitrary advisory body to the Board of Directors
Board of Directors	<ul style="list-style-type: none"> Set the number of directors at 12 or less, of which at least one-third shall be independent outside directors (currently 11 directors, including four independent outside directors) Separated the roles of the Chairman of the Board of Directors and CEO and strengthened the supervision function Set the terms of office of directors at one year to further clarify the mission and responsibilities of directors
Audit & Supervisory Board	<ul style="list-style-type: none"> Set the number of Audit & Supervisory Board members at five or less, of which at least half shall be independent outside Audit & Supervisory Board members (currently four Audit & Supervisory Board members, including two independent outside Audit & Supervisory Board members) Established an Audit & Supervisory Board Office (a staff department for Audit & Supervisory Board members) to enhance the audit functions of Audit & Supervisory Board members
Nomination and Remuneration Advisory Committee	<ul style="list-style-type: none"> Set the composition of the committee to be three or more members appointed by resolution of the Board of Directors, with at least half being independent outside directors (currently comprised of three members, including two independent outside directors, one of which is the chairman) The chairman shall be an independent outside director

Outline of Corporate Governance Structure

The Company has formulated and disclosed a set of corporate governance guidelines that stipulate the basic management policies along with the roles and responsibilities of the Board of Directors. These roles and responsibilities include determining basic Group management policies and strategies and other important matters relating to business execution, as well as supervising the implementation of business affairs.

As of July 1, 2023



ESG | Initiatives for Governance 2/2 : Activities for Strengthening CG

“Examining the current skills matrix,” “increasing female directors,” “retiring treasury stock” and “adopting ESG indicators as KPIs for directors’ remunerations” as initiatives for FY2022

	FY2006~	FY2015~	FY2020~
Institutional design	2006 Shift to the holding company system	2018 Establishment of the Nomination and Remuneration Advisory Committee	2021 Separate appointment of CEO and Board Chairperson
Higher ratio of independent outside directors	2006 Appointment of an outside director	2014 Number increased to two	2017 Number increased to three, representing more than 1/3 2018 Number increased to four
Board diversity assurance		2018 Appointment of a female director	2020 Release of skills matrix 2022 Examination of the skills matrix 2022 Increase of female directors
Enhanced effectiveness of the Board		2015 Introducing corporate governance guidelines 2015 Launching evaluation of Board's effectiveness	2019 Using external organizations to carry out effectiveness evaluation 2022 Retiring treasury stock
Director remunerations design	2007 Introducing the stock option system 2009 Abolishing retirement benefits for directors		2021 Introducing a stock-based compensation program involving transfer-restricted shares and shares linked to mid-term performance (abolition of the stock option system) 2022 Adding ESG indicators as KPIs for stock-based compensation linked to mid-term performance



Healthcare



Medical Systems

Biopharmaceutical CDMO

LS Solutions

- Life Sciences
- Pharmaceuticals
- Consumer Healthcare
- CRO (Business Development Office)

FUJIFILM's Healthcare

In the areas of prevention, diagnosis and treatment, we will help create a healthy society by resolving social issues, including by addressing unmet medical needs and improving access to medical services.

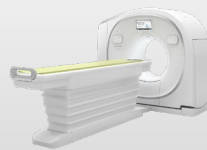
Prevention

- Bulk Drug Substance for Vaccine
- Functional Cosmetics
- Supplements



Diagnosis

- Diagnostic Imaging Systems
- Medical IT
- Endoscopes
- In-vitro Diagnosis
- Ultrasound Systems



Treatment

- Bio CDMO
- Cell/Gene Therapy
- Cell Culture Media
- Pharmaceuticals
- Small-molecule CDMO



Business Strategy for Medical Systems

Create new value and help resolve social issues by combining our industry-leading AI/IT technology with our broad product lineup.



Diagnostic X-ray Imaging



Ultrasound Systems



Endoscopy



SYNAPSE[®] PACS
World's Top Market Share
(*Signify Research report)



REiLI
AI technology brand
launched in 2018



CT & MRI



IVD (In-Vitro Diagnostics)

* Non-destructive testing equipment and materials(P52) are reclassified to the Medical Systems business of Healthcare from FY2023 onwards

83

countries • regions

¥ 0.53 T

Revenue
FY2021

196

countries • regions

¥ 1.00 T

Revenue
FY2030

The number of countries introducing our AI-driven medical products and services

Medical Systems : Medical IT

PACS: Medical imaging and information management system

Picture
Archiving
Communication
System

SYNAPSE series of medical imaging and information management system



- SYNAPSE is used at 5,812 sites worldwide. (*1)
- It has gained high praise from major hospitals in various areas and captured the world's top market share. (*2)

(*1) As of March 2021 The number of "Synapse" Series of devices installed)

(*2) As of the end of FY2021, according to a survey by Signify Research Report

> AI utilization

The REiLI concept was announced in April 2018

We provide new value by consecutively launching products that utilize AI technology to Fujifilm's distinctive modality

* A brand name of AI technology that can be used for medical image diagnosis support, workflow support at medical sites, and maintenance services for medical equipment that we are developing.

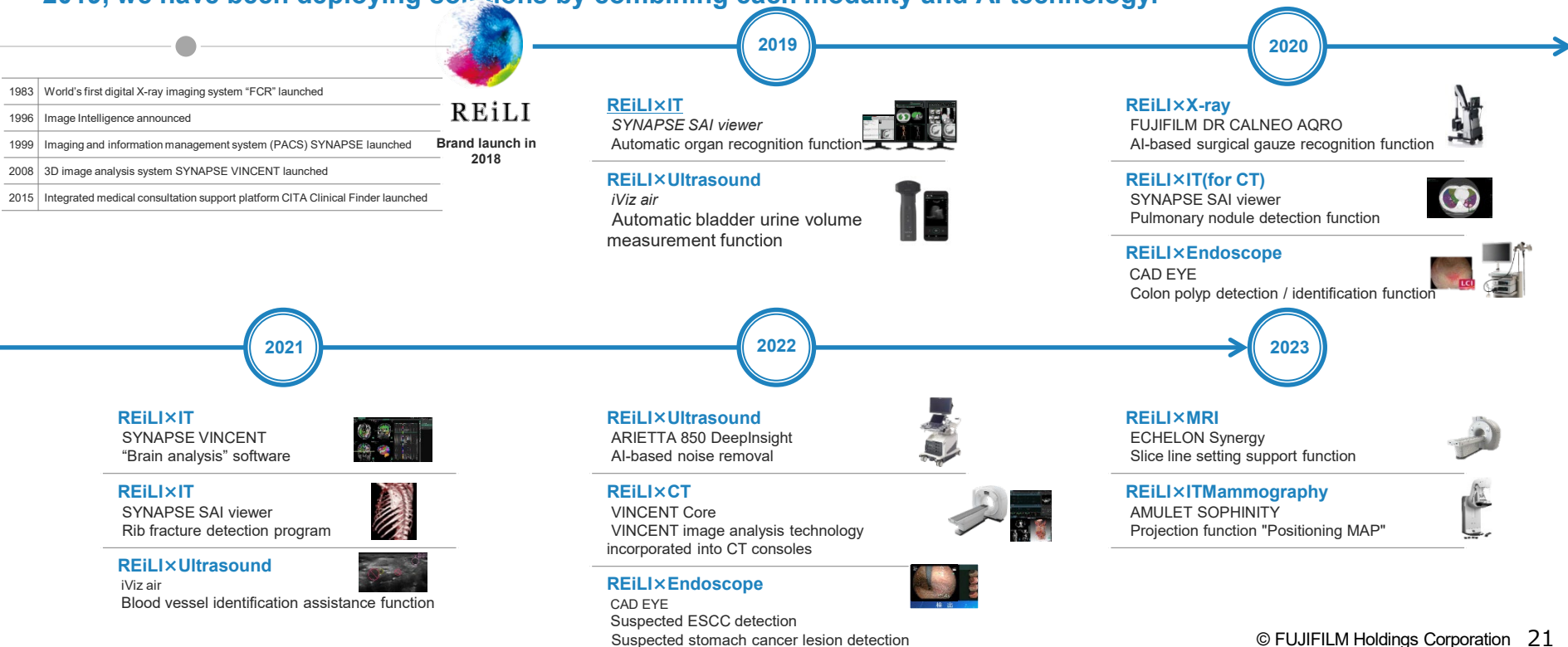


REiLI

Medical Systems : Medical IT

Development of products utilizing AI technology

Since launching Synapse SAI Viewer - a platform equipped with applications that can utilize AI technology - in July 2019, we have been deploying solutions by combining each modality and AI technology.



Medical Systems : X-ray film and X-ray diagnostic imaging systems

Realized significant X-ray diagnostic imaging system cost reductions of by reviewing its equipment design and parts procurement costs. Improved profitability

X-ray film

- Global demand is gradually declining and Fujifilm is focusing on increasing its market share.
- In emerging countries, demand for film used for output proceeds steadily.

X-ray diagnostic imaging systems

› FCR *Fuji Computed Radiography*

Fujifilm was the first to develop this medical equipment (launched in 1983) and has a high market share.

› DR *Digital Radiography*

Launch products with differentiated technology such as image processing technology and special function.

Cassette DR



CALNEO Smart

Mobile X-ray System



CALNEO AQRO CALNEO CROSS

Digital Mammography



AMULET Innovality

Film



Expose an image on X-ray film and develop it in a darkroom

Visually analyze the film image

CR(Computed Radiography)



Store X-ray images on imaging plates (that can be used again, but are consumable) and digitize them. CR developed by Fujifilm are called FCR

Analyze using monitor image
Output to film is also available

DR(Digital Radiography)

When the sensor detects X-rays, an electrical signal is emitted by a flat panel detector and creates an image. The flat panel detector is built into the device, and no consumables are needed.

Medical Systems : CT • MRI

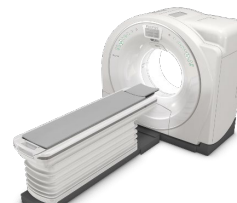
Provide a wide-ranging product lineup of CT / MRI systems with making images high resolution and highly functional

CT : Computed Tomography

We offer CT devices with high clinical value, realizing both low exposure and high-resolution imagery needed for CT devices, in addition to a compact body that can be installed easily.



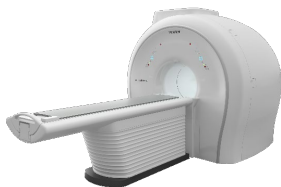
「SCENARIO View」



「Supria Grande」

MRI : Magnetic Resonance Imaging

We offer a wide lineup of systems, working to improve work flow and make patients more comfortable in addition to making images high resolution and highly functional.



「ECHELON Smart Plus」



「APERTO Lucent Plus」

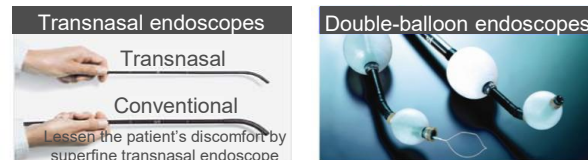
Medical Systems : Endoscopes

Realize sales growth by expanding sales of differentiated products

Endoscopes

Launch competitive products with high added value, that utilizes image processing technology cultivated through the photographic business and thinning technology etc.

- Endoscope systems with laser light sources
- Transnasal endoscopes
- Double-balloon endoscopes

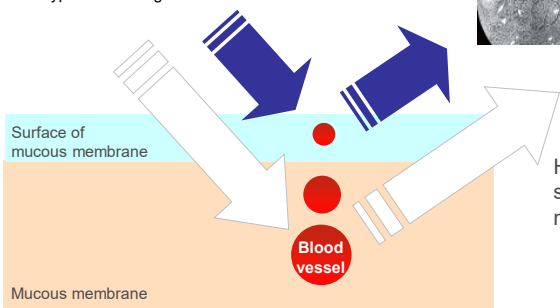


LASEREO

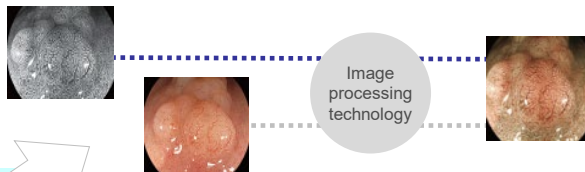
Fujifilm's image processing technology enhanced the visibility of the diseased part

BLI (Blue LASER Imaging)

Two types of laser light source

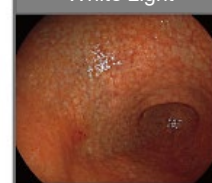


High-intensity contrast imaging with BLI allows superior visualization of superficial vascular and mucosal patterns.



LCI (Linked Color Imaging)

White Light



LCI



LCI differentiates the red color spectrum more effectively than White Light imaging. The increased color contrast improves detection of inflammation and results in more accurate delineation.

Medical Systems : Ultrasound

Aim for further sales growth by promoting the sales expansion in emerging markets etc, utilizing the global sales network of Fujifilm

Ultrasound

- FUJIFILM provides wide-ranging products with high development capabilities in the POC* ultrasound field.
 - * Point-Of-Care(POC). Perform examinations in front of the patient or at home to determine and treat the treatment policy.
- FUJIFILM Healthcare* has wide-ranging stationary ultrasound products.
 - * Acquired FUJIFILM Healthcare Corporation, which transferred the diagnostic imaging business of Hitachi, Ltd. on March 31, 2021.



Medical Systems : IVD(In Vitro Diagnosis)

Realize large sales and OP growths by expanding business area and sales channels

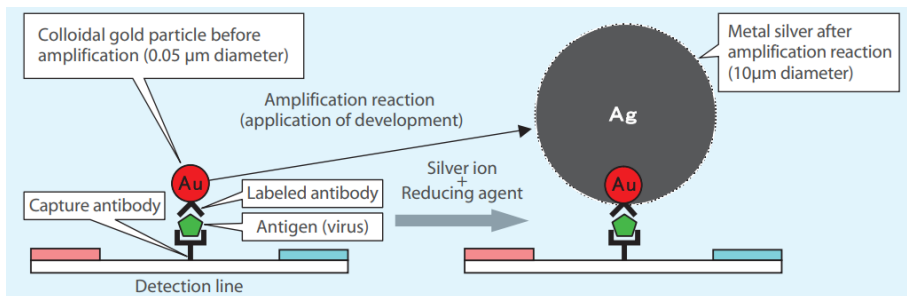
IVD(In Vitro Diagnosis)

- Providing Point of care testing (POCT:Point of Care Testing) type of In Vitro Diagnosis system used in an examining room or at the bedside in a hospital to immunology POCT market and biochemistry POCT market.
- In 2017, Clinical Diagnostics business of Wako Pure Chemical was added. Product lineup expanded and almost all of the domestic hospitals became accessible.
- In animal healthcare business, our business extends in wide-ranging fields from POCT system such as *FUJI DRI-CHEM* and *DRI-CHEM IMMUNO AU10V* to contract clinical test for animals.

IMMUNO AG series : Quick determination diagnostic system through highly sensitive immunochromatography

By applying the silver amplification principle of photographic development, the colloidal gold particles that are the targets are amplified up to 100 times or more, leading to the improvement of detection sensitivity.

Dedicated reagent kit for Influenza, COVID-19, adenovirus, RS virus, Streptococcus pyogens, mycoplasma pneumonia is available.

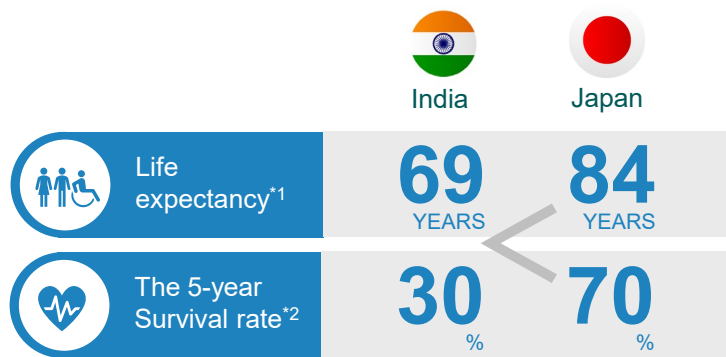


IMMUNO AG1



IMMUNO AG2

Medical Systems : Expanding Health Screening Service Business in Emerging Countries



*1 Source: WORLD BANK

*2 Source: "GLOBOCAN 2020" database compiled by the International Agency for Research on Cancer

Why is the data in India inferior ?

Low proliferation of health screening services, imposing practical difficulty in achieving early detection & treatment of cancer*.

(*Our views based on information obtained)

NURA
Sustained Health with Active-AI Screening

Health screening centers focusing on cancer and lifestyle diseases screening

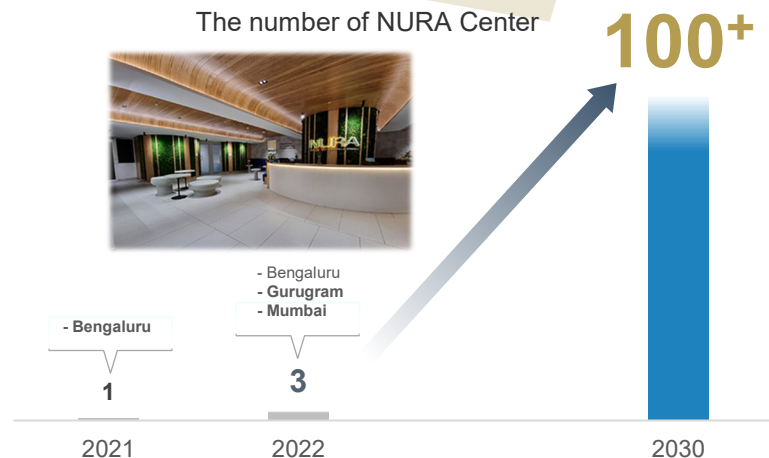
Phase 1 Valuable advice in a timely manner utilizing AI & Big data

Key technologies: AI diagnosis support, Blockchain, Workflow automation etc

Phase 2 New services by data sharing with other relevant institutions

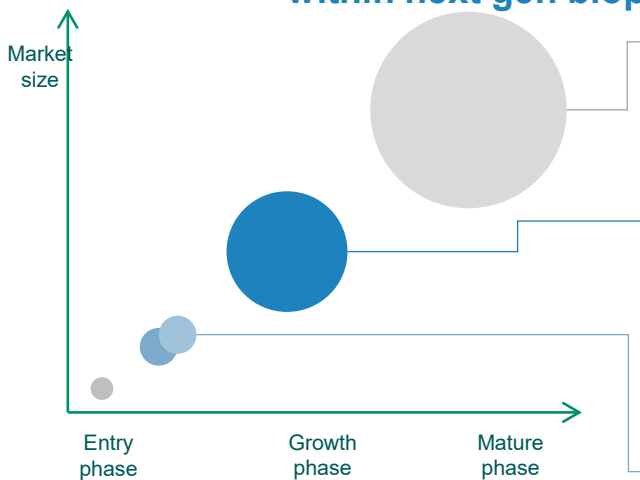
Culture of health screening incorporates into society

The number of NURA Center



Biopharmaceutical CDMO : Business Area

In addition to conventional modalities such as antibodies, technological developments within next gen biopharmaceuticals further increase the demand for CDMOs



Small molecule

Chemically synthesized compounds with a low molecular weight.

FUJIFILM BioCDMO business

Antibody drugs (CDMO market's CAGR(FY18-FY28)+11%)

- Antibodies are proteins made by cells (body's immune system)
- With difficult manufacturing process, fewer side effects, and expected to be high efficacy in the treatment of cancer and rare disease which is difficult to treat for small molecules
- More expensive in capex and quality control than small molecule

Cell therapy | Gene therapy (CDMO market's CAGR(FY18-FY28)+29%)

• Cell therapy :

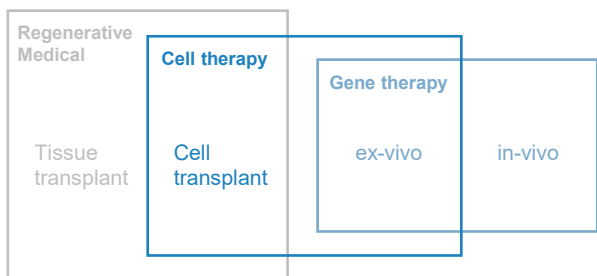
Transplantation of human cells to replace or repair damaged tissue and/or cells

• ex-vivo Gene therapy :

The process of removing specific cells from a person, genetically altering them in a laboratory, and then transplanting them back into the person

• in-vivo Gene therapy :

Direct delivery of genetic material either intravenously or locally to a specific organ through the help of a vector

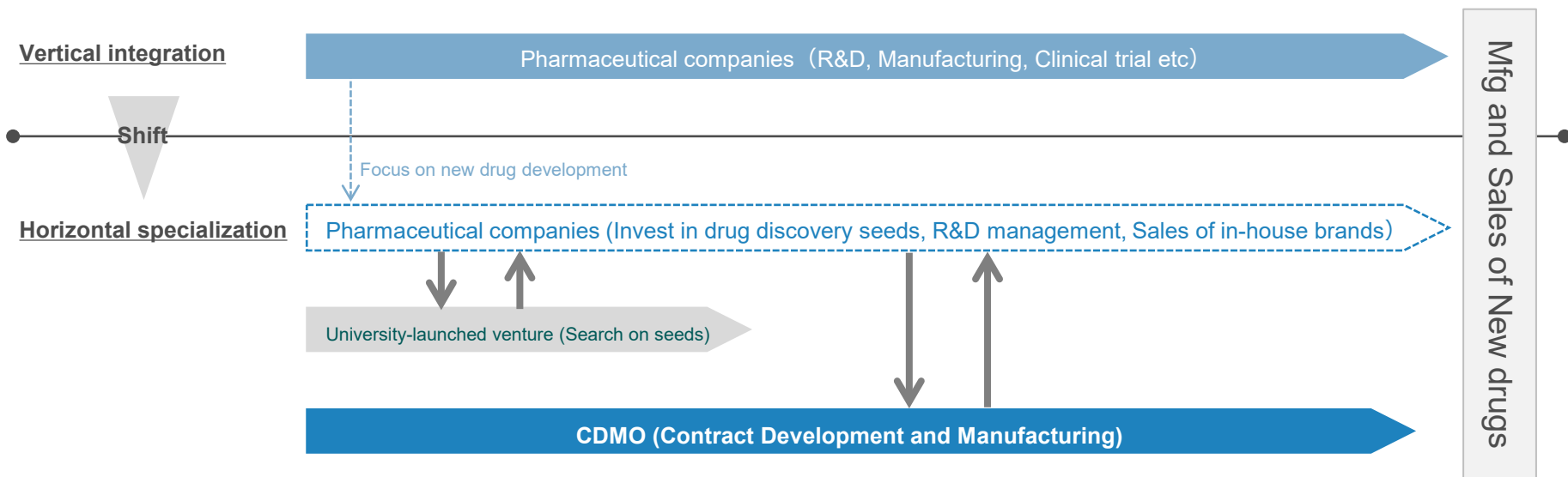


Biopharmaceutical CDMO : Background of Growth in CDMO Business

CDMO business is growing in the bio-pharmaceutical industry by shifting to horizontal specialization.

CDMO : Contract Development and Manufacturing Organization

CDMO is an organization that serves the pharmaceutical industry and provides clients with comprehensive services from drug development through manufacture. The CDMOs provide integral services incorporating external third-party projects and offering their knowledge and development and manufacturing capabilities.



*Reference document: The industrial structural council, The Ministry of Economy Trade and Industry.

Biopharmaceutical CDMO : Fujifilm's Strengths

Integrating Fujifilm's advanced core technologies with biotechnologies acquired through M&A, coupled with state-of-the-art manufacturing facilities to further accelerate growth of Bio CDMO business

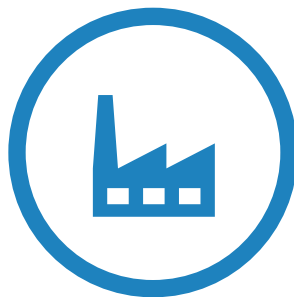


Technologies acquired through M&A*¹

- Cell culture/purification and quality control
- Process development/know-how
- Abundant track record

*¹ M&A

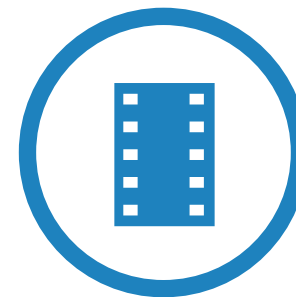
- 2011 : MSD Biologics/Diosynth
(Cur. FUFJIFILM Diosynth Biotechnologies)
- 2014 : Kalon Bioterapeutics
(Cur. FUFJIFILM Diosynth Biotechnologies)
- 2019 : Biogen (Denmark) Manufacturing
(Cur. FUFJIFILM Diosynth Biotechnologies)



Advanced facilities

- State of the art manufacturing solutions small-high volume scale
- High containment mobile cleanroom technologies*²
- Best in class process development capabilities

*² Complies to BSL-2+(Biosafety level) containment with capacities to comply to BSL-3, which is in the top-tier level as a facility for commercial manufacturing.

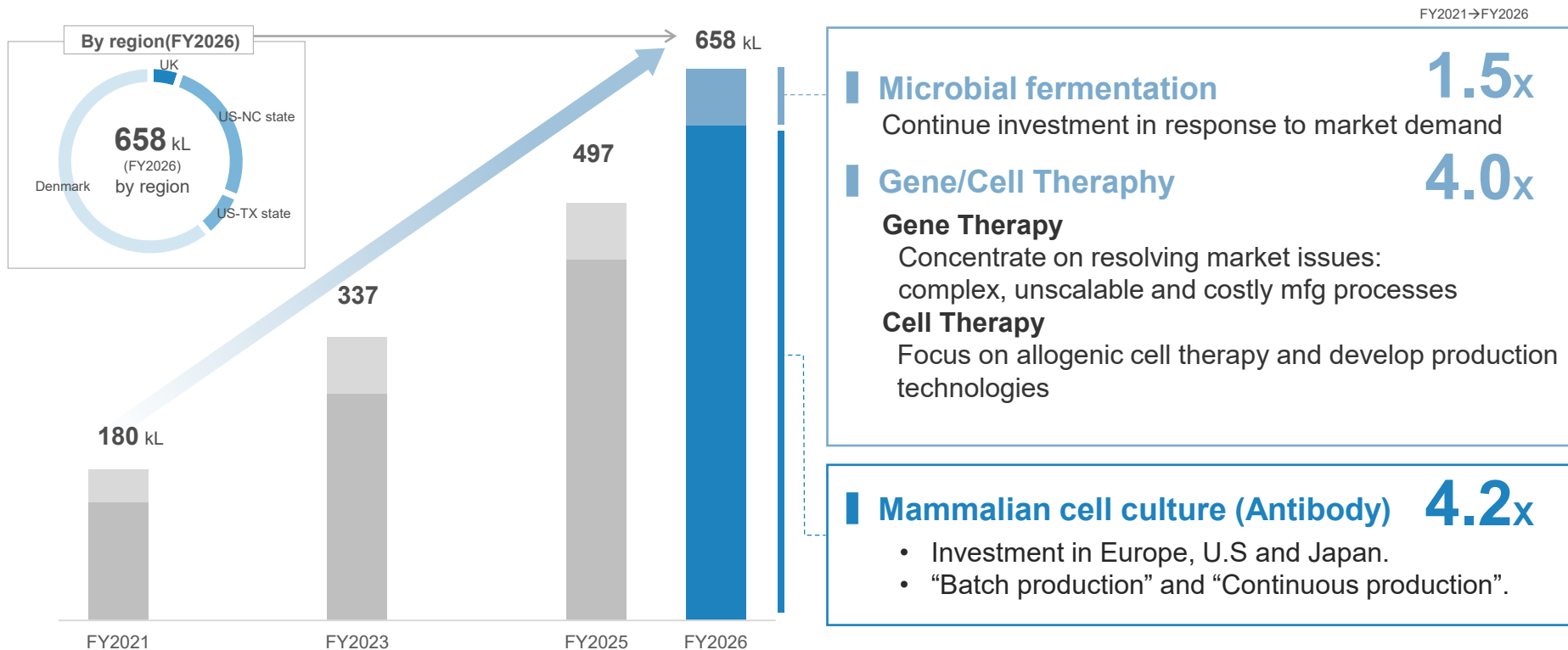


Fujifilm's advanced technologies

- Manufacturing under constant control
- Engineering technology
- Manufacturing process technology






Biopharmaceutical CDMO : Manufacturing Capacity Expansion Plan

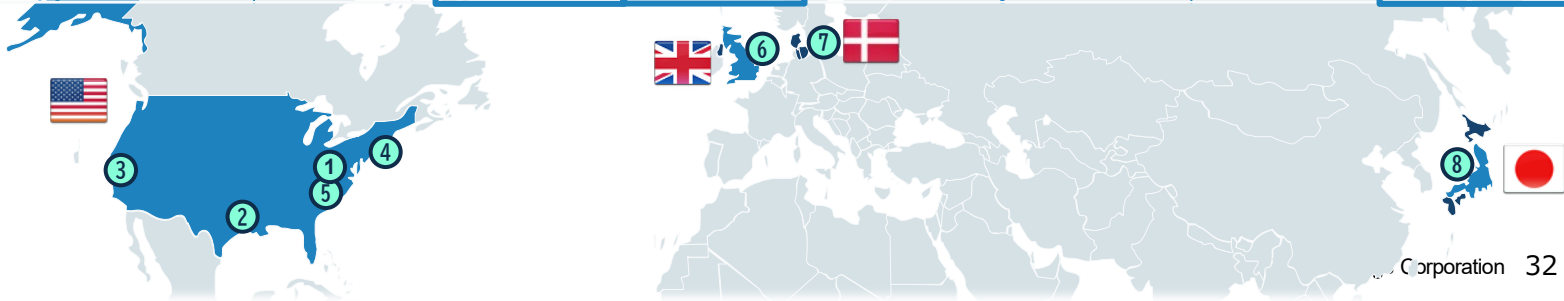
Large investments will be made for each modality and each area with an attempt to further accelerate growth of the bio CDMO business.



Biopharmaceutical CDMO : Global Footprint

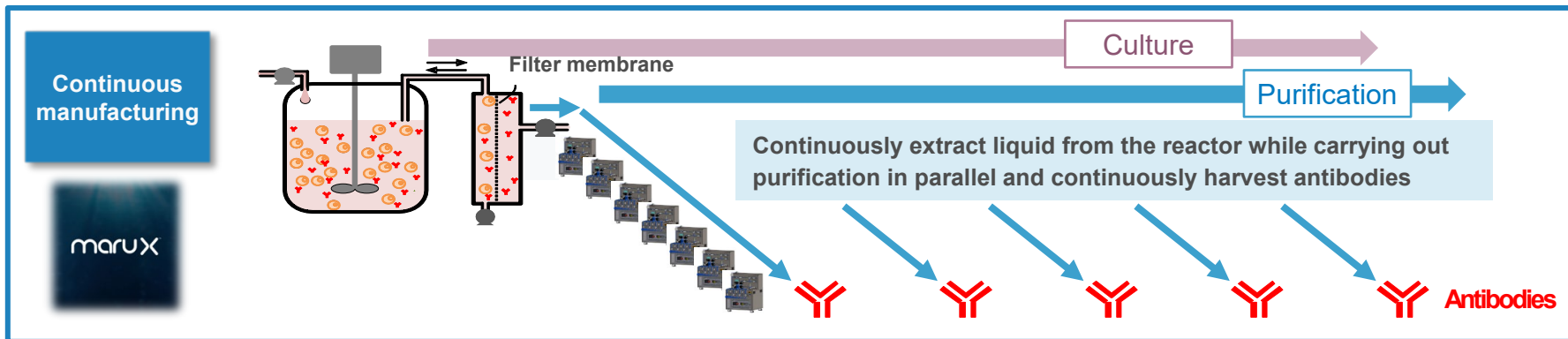
Offering end-to-end solutions from small-to-large scale bulk drug substance production to formulation and packaging

As of Dec,2022 (w/o small molecules)	North America				Europe			Asia
(Services since.)	RTP NC, US	College Station TX, US	Thousand Oaks CA, US	Boston MA, US	Holly Springs NC, US	Billingham UK	Hillerød Denmark	Toyama Japan
								
	(2011)	(2014)	(2022)	(2022)	(TBO2025)	(2011)	(2019)	(TBO2026)
Antibodies	●	●			●	●	●	●
Recombinant proteins	●					●		
Cell/Gene therapies		●	●	●		●		
Vaccines	●	●				●		●
Formulation		●	●		●		●	●
Assembly, Labeling & Packaging					●		●	●



Biopharmaceutical CDMO : What is Continuous Manufacturing System?

World's first "integrated culture to purification 500L scale facility" for continuous manufacturing
GMP manufacturing facilities under construction in the UK and US



Continuous culture reactor



500L reactor

Automatic continuous purification device: Symphon X



Purification device
(7 units connected)

Biopharmaceutical CDMO : Fujifilm's Continuous Manufacturing System

Set to begin GMP operation from 2023 and are currently having discussions with several clients

	Features of Fujifilm's Continuous Manufacturing	Batch Production
Quality	<ul style="list-style-type: none"> • Ability to achieve high purity compared to batch production • Enables manufacturing of unstable antibodies that are difficult to produce with batch production. 	<ul style="list-style-type: none"> • Unstable antibodies are hard to manufacture
Production Capacity	<ul style="list-style-type: none"> • By adjusting the production time small to large scale lots can be made at the same facility 	<ul style="list-style-type: none"> • Different facilities needed for different lot sizes
Facility investment · Mfg. cost	<ul style="list-style-type: none"> • Takes up 25-75% less space compared to batch production • Facility investment amount is likewise reduced by 25-75% • 25% reduction in manufacturing costs(In-house research) 	<ul style="list-style-type: none"> • Need to invest in bio reactors depending on the amount to be manufactured
Technology	<ul style="list-style-type: none"> • Systems for automatic titer control and continuous monitoring of culture conditions are necessary (development complete) • The automatic continuous manufacturing device also needs an automatic control system (development complete) 	-
Culture media	<ul style="list-style-type: none"> • Media optimized for continuous manufacturing is necessary and Fujifilm has developed a high-quality media for this purpose. 	-

(*Automatic continuous purification device and monitoring technology can also be used for batch production.)

Biopharmaceutical CDMO : Continuous Manufacturing System Roadmap

Industry leader with integrated culture and purification for commercial scale (500L) high titer culture. Carrying out scale-up development for 2,000L scale (output equivalent to 20,000L batch manufacturing).



FY2019

Developed fundamental technologies for continuous production (done)



FY2020

Installed a production-scale bioreactor and purification units in UK, to prove if they are ready for future GMP production (done)

Acquisition of PoC data



FY2021



FY2022

- Start development of 2,000L scale culture
- Already applied for 2,000L scale purification



FY2023

GMP-grade 500L bioreactor to be ready for operation in UK.



FY2024



FY2025



FY2026

GMP-grade 500L bioreactor to be ready for operation in US.

maruX

LS Solutions (Life Sciences)

Handling R&D and production of innovative drugs and offering solutions in the field of cell therapy to contribute to addressing unmet medical needs

Cell Therapy Process Development & Manufacturing Service

- We will create synergy, with **a focus on FCDI's* iPS Cell**, that makes use of FUJIFILM group-wide unique engineering technologies, resources, and facilities.
*FCDI: FUJIFILM Cellular Dynamics, Inc.
- Utilizing synergy as a platform, we will **promote** in alliance with partners **efficient R&D and promote business developing and manufacturing cell therapy products.**



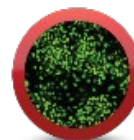
GMP facility : i-FACT

(Madison, Wisconsin, US)



Drug Discovery & Manufacturing Support

- Supplying **cells** (e.g. human iPS Cell for drug discovery), **cell culture media**, **cytokine**, **reagents and related products** to contribute to **discovery research and production of new innovative drugs.**
- Cell culture media has grown rapidly due to increased demand for use in the manufacturing biopharmaceutical.



iPS Cell



Cell culture media



Reagents



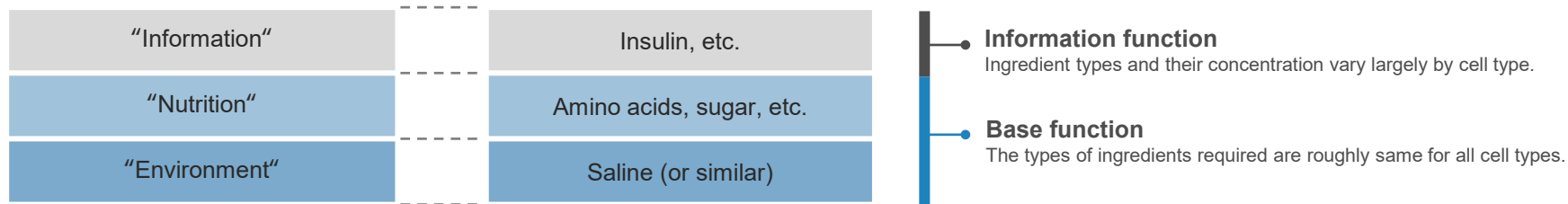
Cytokine

LS Solutions (Life Sciences : Cell Culture Media)

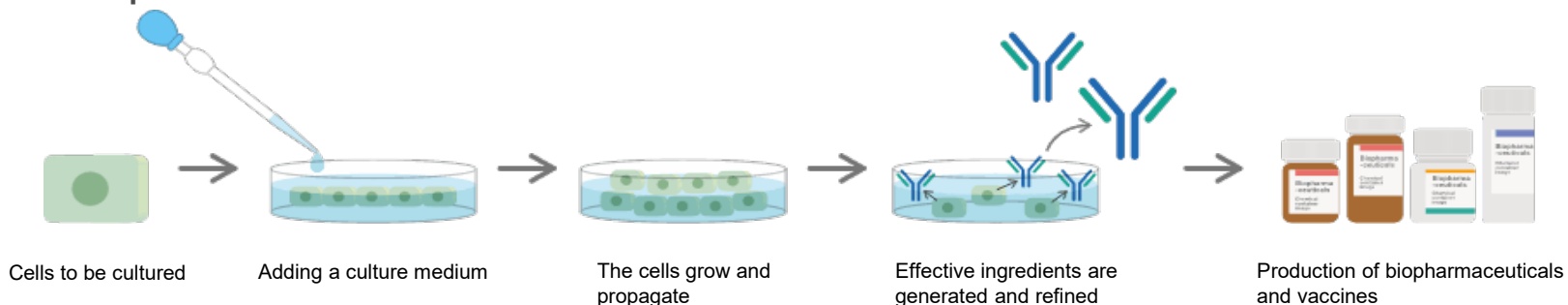
Cell culture media

Cell culture media are important materials, essential for facilitating cell growth and production of end objects generated from cells. It has the function of providing “environment, nutrients and information” to cells.

Just as people have personal preferences, cells and cell products have individual preference in optimum composition of culture media.



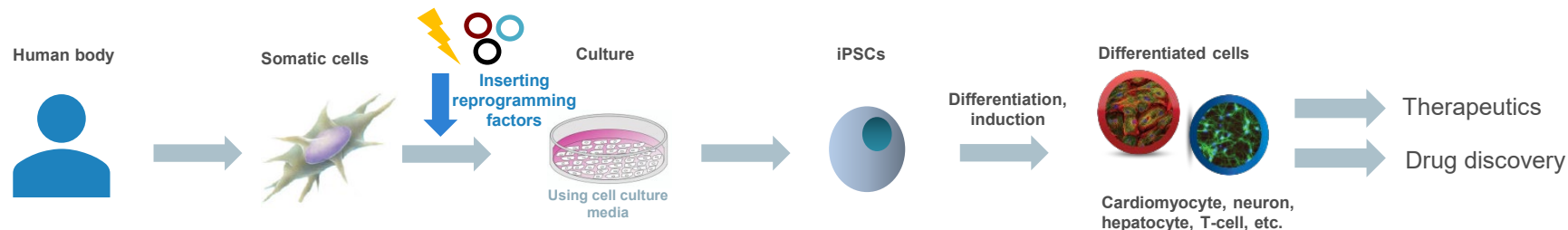
Cell culture process



LS Solutions (Life Sciences : Cells)

iPS cell (iPS = induced Pluripotent Stem)

iPS cell is produced by introducing a small number of genes known as reprogramming factors to human skin tissues and blood-derived somatic cells to give **the ability to differentiate into various tissues** and organ cells and **the ability to propagate almost indefinitely**.



	Autologous cells		Allogeneic cells (donor's cells)	
		Somatic stem cells	Somatic cells	Pluripotent stem cells
Definition	Patient's cells	Derived cells in the body that are able to differentiate into new cells to repair and regenerate tissue	Derived cells that are terminally differentiated and part of the body's tissue and organs	Cells having self-propagating ability and pluripotency
Example		Stem cells derived from bone marrow, MSC, etc.	T-cells, skin cells, blood cells, etc.	iPSC (made from somatic cells/genes)
Mass production	-	Limited	Limited	Possible (High proliferation ability)
Production cost	high	Middle	Middle	Low cost through mass production

LS Solutions (Life Sciences : Cells)

- By using our proprietary technology for mass production, iPS cells can be stably supplied at a lower cost.
- iPS cells will be a key material in the next generation of therapeutic modalities and drug discovery support.

Cell Therapy

Challenges

Stable supply and Stable quality

1. **Shortage** of cell donors for rare diseases
2. **Unstable cell quality** due to individual difference

Solutions

Modality using iPS cells

1. **Stable supply** of iPS cells because of their self-proliferation ability
2. **Stable cell quality** as they are derived from the same cell line.

New drug development support

Challenges

Improving efficiency and Reducing cost of new drug development

1. **No new drug evaluation method** due to complicated disease mechanisms.
2. In some cases, animal tests are OK, but clinical tests are not because of the **difference between humans and animals**.

Solutions

New drug screening with iPS cells

1. **Disease analysis with iPS cells** derived from patients with intractable diseases.
2. Toxicity/drug efficiency/safety tests using **iPS cell-derived disease model before clinical trial**.

LS Solutions (Pharmaceuticals)

- As a core company in the “Treatment” area, FUJIFILM Toyama Chemical Co., Ltd (FFTC), is engaged in the research, development, production, and sale of prescription pharmaceuticals.
- Leveraging over 40 years of knowledge in the field of anti-infective drugs, the company has recently focused its efforts on the business of contract manufacturing as the only company who can manufacture sterile penicillin antibiotics.

Small molecule drug

A group of two or more atoms that form the smallest identifiable unit into which a pure substance can be divided and still retain the composition and chemical properties of that substance.

	Small molecule	Biopharmaceutical (Antibody)
Size	Small(<500 daltons)	Large (a few kdaltons~approx.150 kdaltons)
Structural basis	Stable chemical structure	Nonuniformity due to complex structure
Manufacturing method	Chemical synthesis	Produced by bacteria and microbe
Cost(Manufacturing, R&D)	Low	High
Formulation	A wide variety(tablet form etc)	Mainly injection

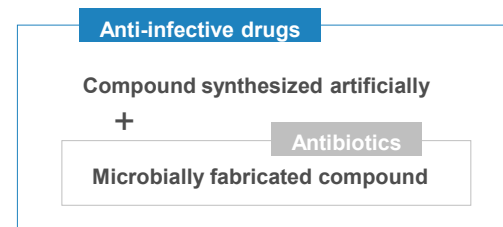
> Anti-infective drugs

Medicines that work to prevent or treat infections

Category	FUJIFILM's products
Penicillin	Pnetcillin®
Cephem	TOMIRON®, LARIXIN®
Quinolone	OZEX®, PASIL®
Fluoroketolide	Code T-4288 : Submitted an application for permission in Japan



“Antibacteria agents” and “Antibiotics”



*FUJIFILM is undertaking CDMO business for anti-infective drugs in addition to above.

LS Solutions (Pharmaceuticals)

- Fujifilm is promoting the development of DDS technologies that deliver the required amount of a drug to the specific area on the necessary schedule.
- With the aim of applying the technologies not only to marketed drugs but expanding to next-generation drugs such as nucleic acid drugs and gene therapy drugs, Fujifilm is undertaking the research and development of DDS.

Liposomes | LNP : Lipid Nanoparticle

Capsule-shaped particles of phospholipids, a component of cell membranes. They can encapsulate active ingredients such as drugs and ribonucleic acid(RNA).

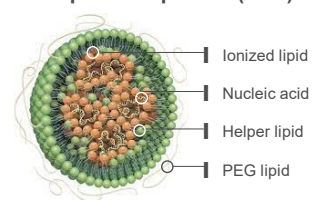
DDS materials

› DDS : Drug Delivery System

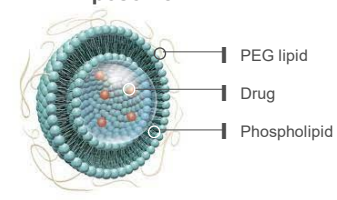
Technologies that carry drugs into or throughout the body.

☛ Enhancing the efficacy as well as reducing the side-effect of drugs.

Lipid Nanoparticle(LNP)



Liposome



Pipeline regarding Liposomes

As of May, 2023

Code	Program/Indication	Formulation	Region	Stage
FF-10832	Advanced solid cancer drug (Gemcitabine*1 liposome)	Injection	US	PhI
FF-10850	Advanced solid cancer drug (Topotecan*2 liposome)	Injection	US	PhI

*1 An anti-cancer agent developed by the US company Eli Lilly and Company which is indicated for the treatment of wide range of cancers including pancreatic cancer, lung cancer and ovarian cancer. FUJIFILM has begun implementation of a phase 2a study in the U.S. to evaluate safety, tolerability, and preliminary efficacy of FF-10832 in combination

*2 an anti-cancer agent developed by GlaxoSmithKline plc. Currently, the drug is being sold by Novartis. It is used as a treatment for ovarian cancer, small-cell lung cancer, cervical cancer, etc.




Japan's first manufacturing facility for liposome formulation capable of commercial production (701 facility of FUJIFILM Toyama Chemical Co., Ltd.)

LS Solutions (Consumer Healthcare)

Second foundation and establishment of the cosmetic field in 2000s

Taking stock of the technologies we had cultivated in the development and production of photographic film, we entered the cosmetics and pharmaceuticals markets as future growth areas

The major component of photo film is **collagen**, the same as that of the skin





Collagen

Main ingredient of photo film

Forms about 70% of dermis

The **antioxidant technology** of photo film is used







w/o antioxidant technology	w/ antioxidant technology
	
25 years after	

Oxidation

Causes color fading of photos

Causes skin blemishes and aging

The **nano-technology** for photographic exposure and color development is used

Conventional	New
	
	
	

Nano-technology

Used for exposure and color development of photos

Improves permeability and absorption of ingredients

Cosmetics



2006

Launched the *F Square I* series of functional skincare cosmetics
Start in mail-order sales



2007

Launched the skincare series of *ASTALIFT*
Start in store sales

2007

2006

Supplements

2007

Launched the supplement of *MetabARRIER*.



LS Solutions (Consumer Healthcare)

Cosmetics

2011

Launched the *ASTALIFT Base Makeup* series
(Entered the base makeup cosmetic market)

2014

Launched the ASTALIFT Hair Care series
(Enter the hair care market)

2019

Launched the skin care series for men of *ASTALIFT MEN*
(Enter the men's cosmetics market)

ASTALIFT



ASTALIFT MEN



Lunamier



Lunamier
AC



cresc.
by ASTALIFT



Supplements

2010

2015

2020

2015

Relaunched the *METABARRIER SLIM* as our first "Foods with Functional Claim"



LS Solutions (CRO[Business Development Office])

Established “CRO Business Development Office” on April 1st, 2023 which provides services of seed research and pharmacology & Safety testing.

CRO : Contract Research Organization

CROs provides support to the pharmaceutical, biotechnology, and medical device industries in the form of research services outsourced on a contract basis

Basic Research

Drug Discovery

Pre-clinical
Trial

Clinical
Trials

Review

Approval

Product
Launch

Lead compound

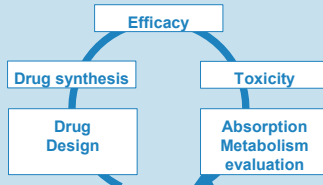
Drug candidate

Drug development

Product(Pharmaceuticals)

Pre-Clinical CRO(in vitro(Cells) | in vivo(Animals))

In charge of Drug discovery research(drug design/sample/analysis), Pharmacology and Safety test



Pharmacology

Pharmacokinetic

(Absorption, Distribution, Metabolism and Excretion)

Safety Pharmacology

(Genotoxicity, Reproductive toxicity, Cardio-toxicity etc)

Clinical CRO (Human)

Support the clinical trial in terms of coordination with medical institutions and data management

CDMO

Drug candidate recipe examination

Drug candidate manufacturing

Drug development manufacturing

Product manufacturing



Materials



Advanced Materials

- Electronic Materials
- Display Materials
- Industrial Products
- Fine Chemical
- Recording Media

Other Advanced Materials

Graphic Communications

- Graphic Communication
- Inkjet

Advanced Materials (Electronic Materials)

Amid the continuing growth of the semiconductor market, the COVID-19 pandemic triggered semiconductor supply shortage. As the result, stable supply chain became the biggest challenges. Some countries are attracting semiconductor fabs and developing domestic manufacturers under a government-led industrial policy from the perspective of economic security.

› Further growth acceleration in the semiconductor market

• Post-COVID digital revolution

The semiconductor market is expected to grow further due to additional demand for advanced computing application devices (e.g., autonomous cars). These continuous growth will be spread over the United States, South Korea and Taiwan **(approx. ¥100 trillion by 2030)**.

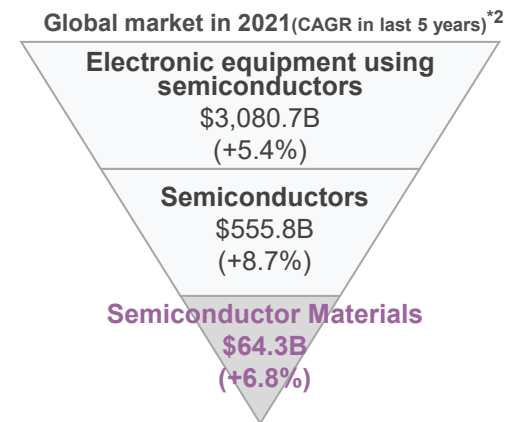
• Increased demand for semiconductor materials

It is expected to continue growing at the rate of **CAGR 9.4%*1** by the evolution of advanced semiconductor packaging technology and expansion of semiconductor demand.

(*1 Source : Fuji Chimera Research Institute, Inc.)

› Intensifying international industrial policy competition of a new dimension from the perspective of economic security

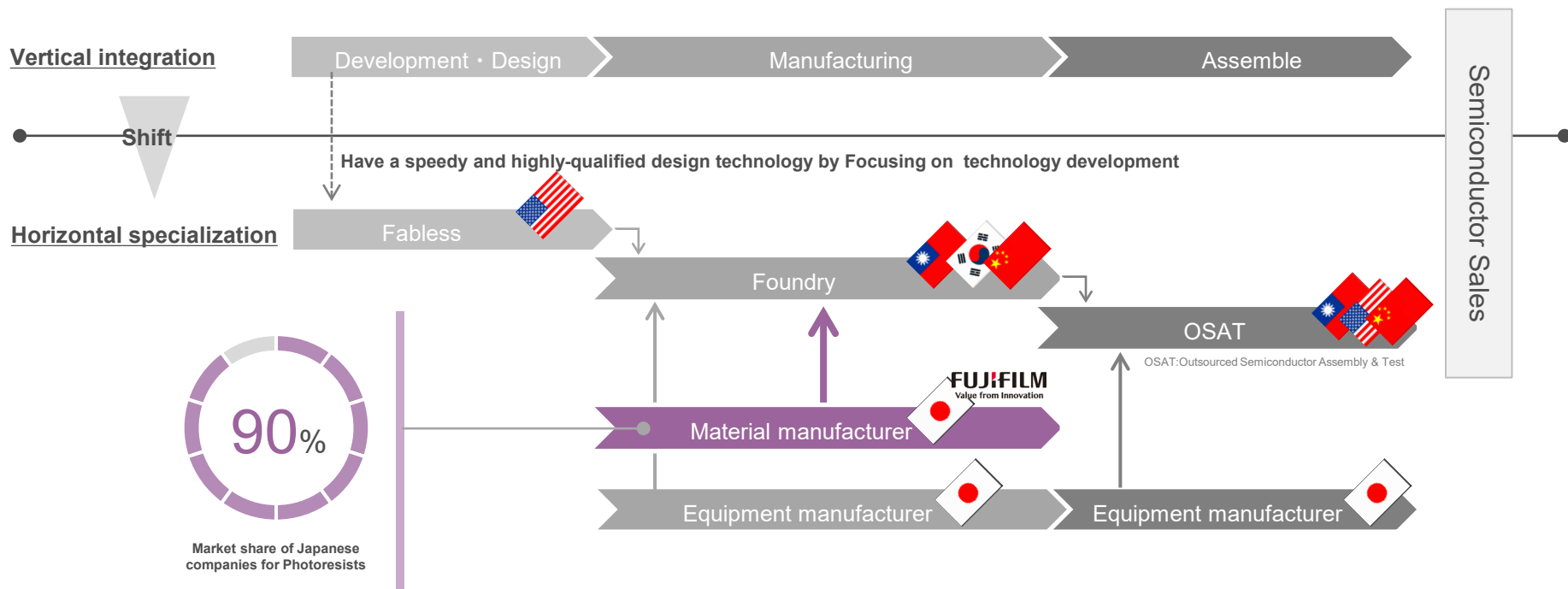
Background of a technological power conflict between the US and China as well as semiconductor supply shortage, there are moves to domestically produce advanced semiconductors and build a structure for supply stability as a national strategy.



Advanced Materials (Electronic Materials)

Semiconductor industry spending huge capital investment has been promoting horizontal specialization since 2000s

> “Materials” and “Equipment” Japanese companies display their overwhelming strength in the semiconductor industry



Advanced Materials (Electronic Materials)

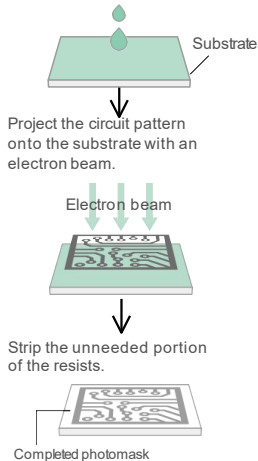
Offer materials used during the process of manufacturing semiconductors

Front-end Process (Positive-types)

Back-end Process

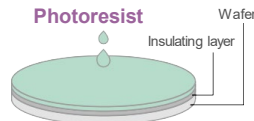
1 Make Photomasks

Coat a glass photomask substrate with **resists for photomask fabrication**.
Resists for Photomask Fabrication



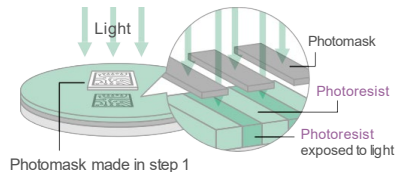
2 Apply Photoresist to the Wafer

Apply an insulating layer to the wafer, the base of the semiconductor, and then apply **photoresist**.



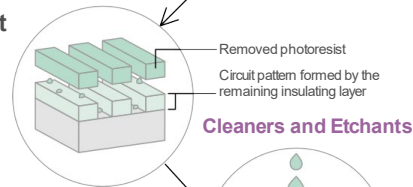
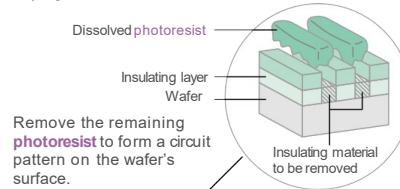
3 Expose the Photomask to Light

Place the photomask made in step 1 on top of the wafer made in step 2 and expose it to light. Circuit patterns are created on the **photoresist**.



4 Conduct Etching

Dissolve the portion exposed to light in step 3 using a developer, and remove the insulating material lying underneath.



Use **cleaners and etchants** to remove the **photoresist** residues.

1 Resists for Photomask

Materials for making photomasks, a “die” circuit pattern

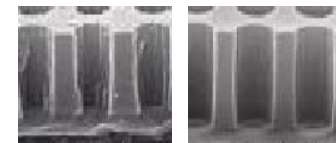
2 Photoresists

Photosensitive polymer material used in the process of making circuit patterns



4 Cleaners and Etchants

Various cleaners to remove etch residues, etc.



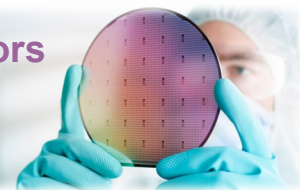
Before (left) and after (right) cleaning

Advanced Materials (Electronic Materials)

Offer materials used during the process of manufacturing semiconductors

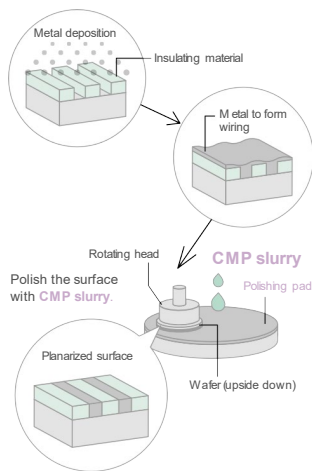
Back-end Process (Positive-types)

Completion



5 Form Wiring and Planarize the Surface

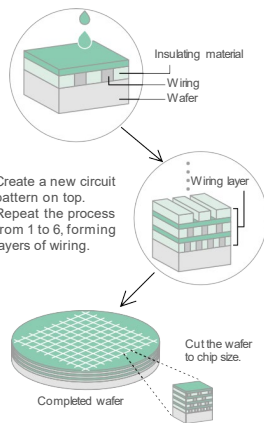
Deposit metal onto the circuit pattern to form wiring.



6 Insulate the Surface

Apply thin film forming material to prevent deterioration of semiconductor performance.

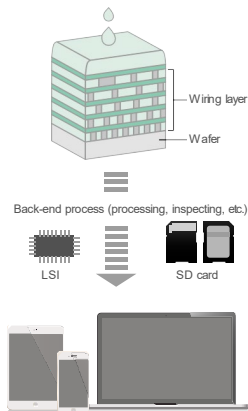
Thin Film Forming Material



7 Protect the Semiconductor Circuit

Apply polyimide products with each chip to form a protective film.

Polyimide Products



5 CMP Slurries

An abrasive to evenly planarize, on a micron scale, the surface of semiconductors where wires and insulating materials with different stiffness are mixed

6 Thin Film Forming Materials

A low dielectric constant insulation material used to prevent loss of speed in semiconductor performance arising from the narrowing insulation between wires

7 Polyimide Products

A compound with high thermal durability and insulating capacity, used as a protective film in semiconductors. Its use is expanding to rewiring layer materials for IC chips of higher speeds and functionalities.

Processing Chemicals

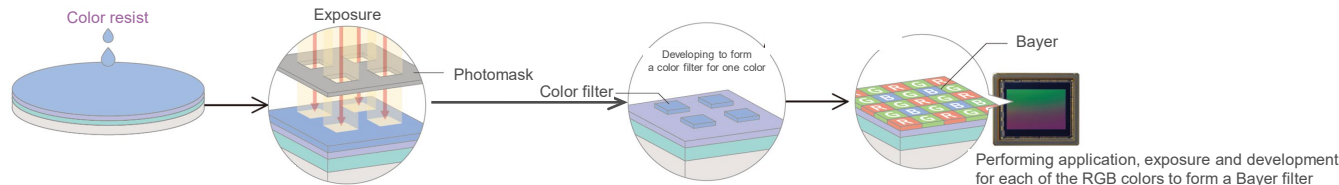
Chemical agents that are critical to the semiconductor manufacturing process, used to remove impurities in cleaning/drying processes and to remove metals and oils in the etching process

Advanced Materials (Electronic Materials)

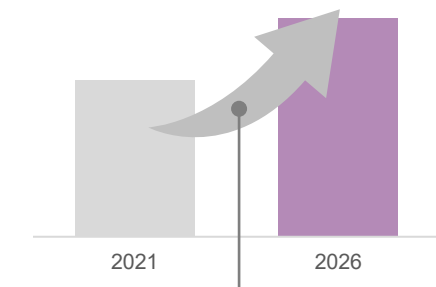
Color filter materials for image sensors (Color resist)

A photo-sensitive coloring material for manufacturing micro color filters, used in image sensors.

Applying color resist on the wafer, which forms the base



Market for color filter materials for image sensors



- Mobile domain
- In-vehicle use
- Factory automation (FA)
- Surveillance (security)
- IoT

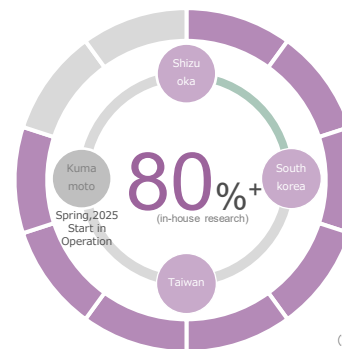
2021
¥ 14 billion

CAGR
+ 7%

2026
¥ 19.5 billion
(In-house research)

Fujifilm market share and manufacturing site

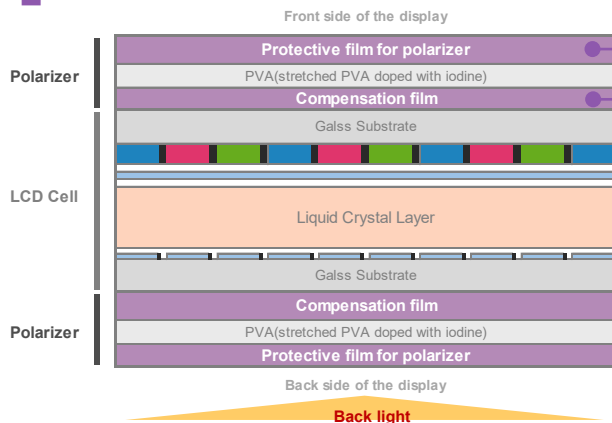
Fulfill our supply responsibility as the top manufacturer through stable manufacturing/supply of our high-quality materials.



(In-house research)

Advanced Materials (Display Materials)

Fujifilm's Main Products



FUJITAC

Protective film for polarizer. Used regardless of any difference in LCD mode.

Compensation Films

> WV film

A compensation film that widens the viewing angle in TN mode. Fujifilm has 100% market share.

> VA film

A film used for the polarizer in VA mode to control the inflection of light for better viewing angles and contrast.

> IPS film (Z-TAC)

A film used for the polarizer in IPS mode to contain tint fluctuations when the screen is viewed diagonally.

Differences in LCD modes

The drive system of LCD panels can be divided into three types. "Compensation films" like WV film, VA film, Z-TAC are used for the purpose of covering weak points or improving quality,.

	TN* mode *Twisted Nematic	VA* mode *Vertical Alignment	IPS* mode *In-Plane Switching
The products being used	WV film	VA film	Z-TAC
Contrast	○	◎	△
Viewing angle(changes by using compensation films)	×→○	×→○	○→◎
Efficiency of light emission	◎	○	○
Manufacturing cost	Low	Middle	High

Advanced Materials (Display Materials)

Realize sales growth owing to a sales expansion of new products for OLED panels while maintaining stable sales and profit of TAC films for LCD panels

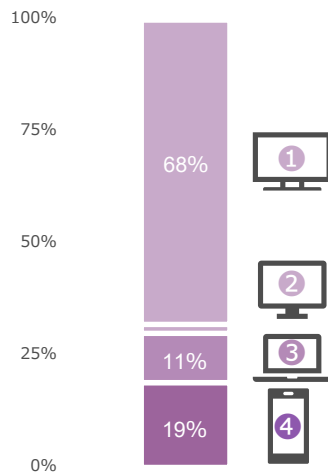
- **For TVs/Monitors**

Demand for LCD panels continues to gradually grow as the size of TVs increase. Promote sales of FUJITAC and VA film/Z-TAC.

- **For small and medium-sized displays**

For LCD panels, Reinforce sales of super-thin FUJITAC and IPS film for smartphones and tablet PC. For OLED panels, promote sales of new products such as films for circular polarization.

Volume of end products and main films by application



(FY2021, In-house research)

	FUJITAC	WV (TN ^{*1})	VA (VA ^{*2})	Z-TAC (IPS ^{*3})
① TVs	●		●	●
② Monitors	●	●	Partly Used	●
③ Notebook PCs	●	Partly Used		Partly Used
④ Small/mid sized Displays (Tablet PCs Smartphones)	●	Partly Used		●

* 1 TN: Twisted Nematic

* 2 VA: Vertical Alignment

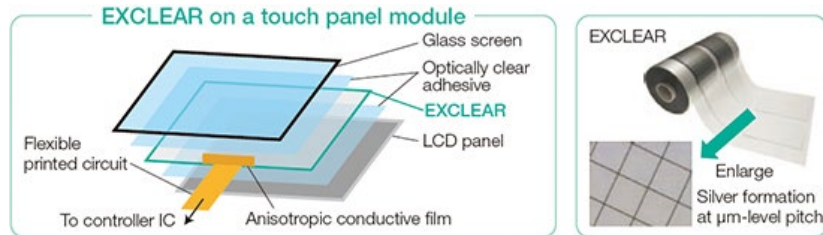
* 3 IPS: In-Plane Switching

Advanced Materials (Industrial Products)

Develop high-value-added products equipped with Fujifilm's advanced technologies and promote commercialization

EXCLEAR

Sensor film for touch panels.
Realize high transparency and flexibility by patterning with silver on a transparent PET base film. Low resistance and can be adjusted to medium-to large-sized touch panels.



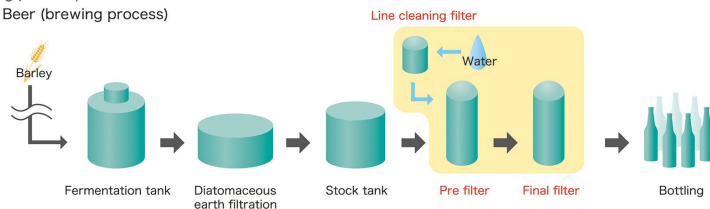
Microfilters



A filter for microfiltration of microorganisms and fine particles that can be used in a wide range of fields such as beverage and precision machinery like electronic components and LCD panels.

Beer (brewing process)

Beer (brewing process)



Gas separation membrane

Membrane for separating the very pure natural gas and impurities like CO₂ from natural gas.



PRESCALE

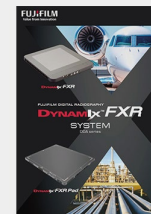
Pressure measurement film.



Non-destructive testing equipment and materials

***It is reclassified to the Medical Systems business of Healthcare from FY2023 onwards**

Industrial-use X-ray films, digital X-ray imaging system.



Advanced Materials (Fine Chemical)

Providing high-quality and high-performance laboratory chemicals, speciality chemicals and diagnostic reagents based on the advanced technology of Wako Pure Chemical Industries to meet customer needs

Electronics materials

- Polymer for photoresists
- Photoacid generator(WPAG series)

etc.



Battery field

- Binders for Lithium Ion Battery(LIB)
- Dye-sensitized solar cell(DSC)

etc.

化成品受託製造

Providing strong support for all processes involved in planning, development, and production as a reliable partner in our customers' production processes by applying our quality management system and knowhow accumulated over many years.



Synthesis technology



manufacturing technology



Raw material procurement



Quality assurance

Polymer-related chemicals

- Azo polymerization initiator
(Raw materials for diapers, automobile parts, etc)
- High performance polymerization inhibitors
- Photo cationic initiators
- UV-Curing Thermally Conductive
- Reversible Addition/Fragmentation Chain Transfer Polymerization

Pharmaceutical and cosmetic materials

- Thickening agents
- Film-forming agents
- Moisturizer(Curevelist, Evemoist®)
- Whitening agent(Magnesium ascorbyl phosphate)
- Antibacterial agent(Cetylpyridinium chloride)

etc.

etc.

Advanced Materials (Recording Media)

Since Fujifilm developed professional-use videotapes in 1959, the Company has offered products with high performance and high reliability to tape drive manufacturers worldwide.

Magnetic tapes for data storage

- Fujifilm's magnetic tapes for data storage with barium ferrite particles (BaFe), which were developed by Fujifilm's proprietary technologies, are achieving a high reputation in the market.
- Further usage in the data archive field is expected, reflecting the rapid increase of data in the world and the popularization of cloud computing.



Barium Ferrite



Save the Earth

100PB ten years of CO2 emissions

100% Tape vs 100% HDD

-95%



Save Cost

Ten year expected total cost

LTO Technology vs All Disk

-86%



Save Data

- Air gap security
- High reliability
- Long-time storage



Off-line safety



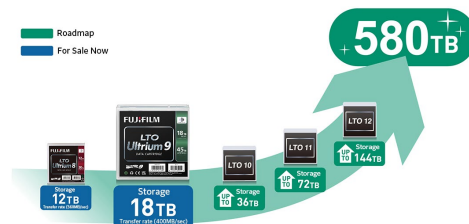
Quality UPI!



50 years



Save Future



Graphic Communications

Graphic Communication business

Digital Printing On-demand printing



Jet Press 750S



Iridesse™ Production Press

- Inkjet digital press
- Production systems
- Wide-format inkjet systems

Analog Printing Offset printing



FUJIFILM
SUPERIA
PS-PLATE

- Graphic arts films
- Printing plates
(PS plate, TP(Computer to Plate) etc)

Digital printing (On-demand printing)			Analog Printing (Offset printing)				
① Data creation	② Data check	③ Printing Finishing	① Data creation	② Data check	③ Plate-making	④ Wetting Inking Offsetting	⑤ Printing Finishing
Unneeded		Plate	Needed				
Ink toner (Laser printing) or Inkjet		Inking	Ink				
Inferior to Offset printing (limited to colors)		Quality	High quality image				
Could partly be impossible		Paper/Size	Available almost any type of paper & size				
Faster turnaround & less setup time		Time	Longer setup time & inks require drying time.				
Suited for short/medium print runs		Quantity	Ideal for larger volume printing				

Graphic Communications (Inkjet)

Inkjet business

- Providing inkjet printheads and inks for industrial-use printers for various purposes such as construction materials and ceramics.
- Striving to focus on integration businesses that incorporate printheads, ink, software such as image processing tailored to customers' needs.

Fujifilm Inkjet Technology is backed with the power of synergy and integration for development



Printheads

FUJIFILM Dimatix, Inc that boasts the world's largest scale and highest level of technological capability has a lineup of various types of printheads, catering to market needs on required resolutions, ink types and ink drop sizes



Inks

The lineup caters to not only Fujifilm-branded printers but also other companies' printers for both consumer and business use, covering a wide variety of market needs.



image optimization

Fujifilm has made all-out efforts into research for "image processing technology," integrating a comprehensive range of associated fields such as materials, devices, systems and hardware



Business Innovation



Office Solutions

Business Solutions

Business Innovation

Office Solutions

Document-related office solutions provided through the sales and maintenance of multifunction devices, printers and consumables with robust security features



ApeosPro C810



Apeos C8180



Apeos C7070



Apeos C320 z



ApeosPrint C320 dw

Business Solutions

Solution-oriented document services tailored to various industries and operations, including system integration, cloud services, management of multifunction devices and business process outsourcing, contributing to streamlining/reinforcing customers' operations and reforming work styles



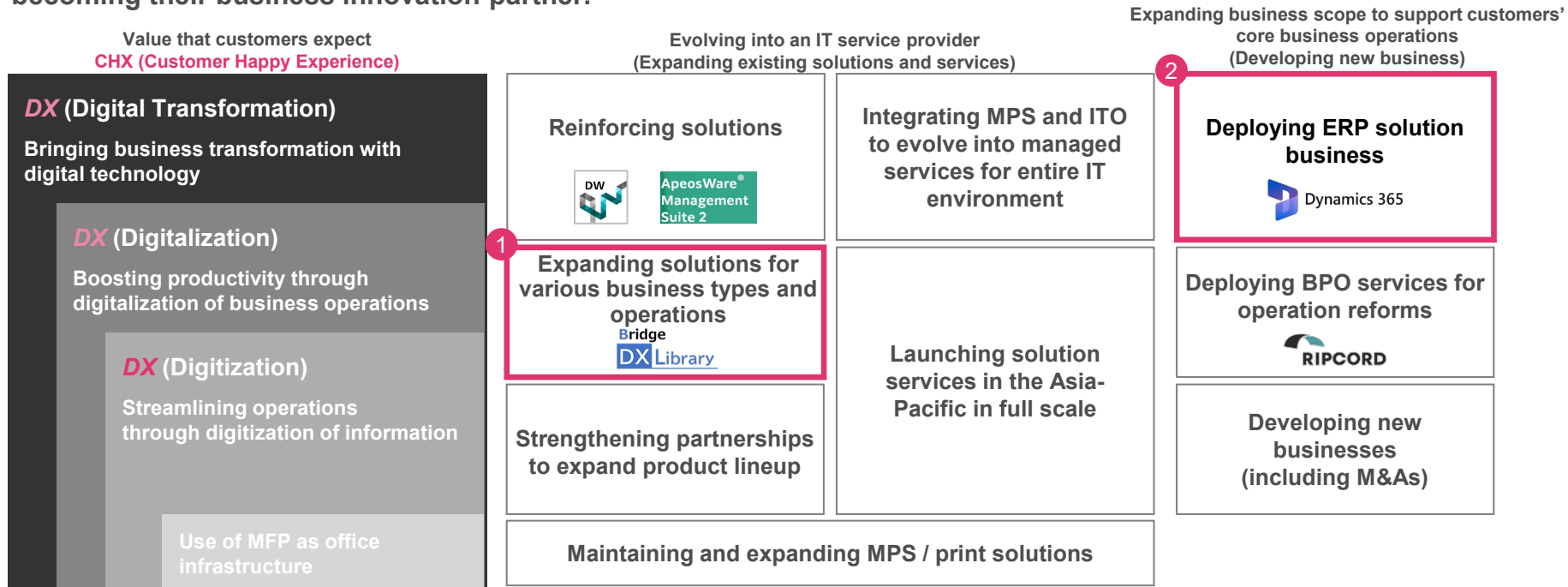
Bridge
DX Library

 Dynamics 365

Business Innovation (Business Solutions)

Business Solutions

Offering one-stop DX services to help customers succeed and gain CHX (Customer Happy Experience), thus becoming their business innovation partner.



*MPS (Managed Print Service) : Optimizing the data output environment at offices to maintain and reinforce cost management, security and governance
 ITO (IT Outsourcing) : Drawing up IT strategy for clients and assisting the introduction, administration and management of the IT environment based on the strategy
 BPO (Business Process Outsourcing) : Offering outsourcing service of core work processes to local governments, public organizations and private enterprises







Business Innovation (Business Solutions)

① Bridge DX Library

Offers solutions tailored to four industries, including construction and manufacturing, as well as solutions for business issues common to all industries, such as facilitating compliance with the Electronic Books Preservation Act, support for the invoicing system and enhancement of security, thereby becoming a bridge that guides customers to a success.

Bridge

DX Library Examples of values offer to each of the industries

	Construction	<ul style="list-style-type: none"> Centrally managing construction information such as surveying, quantification and quality control data to streamline construction management Digitizing internal and external information linkage to improve the pace and efficiency of construction management
	Manufacturing	<ul style="list-style-type: none"> Protecting technical information such as design and CAD data from malware Using image recognition system to achieve IoT with existing production facilities
	Healthcare	<ul style="list-style-type: none"> Checking medical fee breakdown data to reduce the rate of medical fee review Improving the quality and efficiency of online meetings at medical sites
	Welfare Services	<ul style="list-style-type: none"> Protecting users from ransomware targeting welfare service businesses Streamlining contract-related operations and eliminating the use of paper
	Wholesale	<ul style="list-style-type: none"> Outsourcing of invoice receipt for the invoicing system as well as productivity enhancement Preventing dependence on individual skills for customers' information by sharing business card information
	Public Services	<ul style="list-style-type: none"> Achieving both work-style reform of employees and improvement in customer satisfaction through Municipality DX High-quality services can be provided even in remote areas by remote-basis support counter

Current lineup:
146 types of solutions*

*As of March, 2023

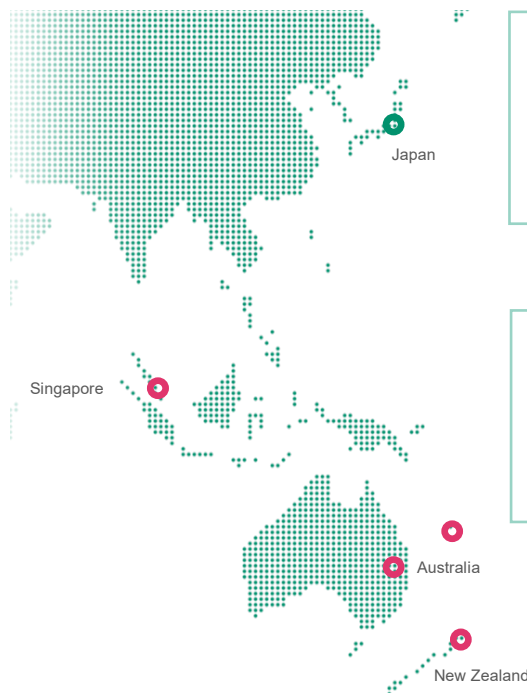


Business Innovation (Business Solutions)

② ERP DX Solutions (Dynamics 365)



Deploying ERP DX solutions built on a group of cloud-based applications including Microsoft Dynamics 365. Acquiring the Australian company Microchannel Services to launch full-scale global expansion of ERP DX business, targeting mid-tier and small to mid-sized enterprises.



FUJIFILM

FUJIFILM Digital Solutions Co., Ltd.

Japan and Thailand
(January 1, 2022~)



MicroChannel Services

Australia · New Zealand · Singapore
(March 1, 2023~)

M&A for new market expansion

Including Microsoft Dynamics365, SAP, Sage and other globally-deployed ERP system packages

Supporting the sales and introduction of main ERP systems

One-stop support from introduction to administration, allowing all users to handle operations digitally

End-to-End service delivery

Award History

100+

Microsoft Solution Partner (previously Microsoft Dynamics 365 Gold Partner)
SAP Partner of The Year - ANZ, Excellence Award ANZ - Sage Intacct etc.

Strengths: Proven track records in marketing and supporting the introduction of various ERP systems, well-established customer base and IT human resources with advanced technological expertise



Imaging



Consumer Imaging

Professional Imaging

Consumer Imaging

Delivering highly competitive products that incorporate proprietary technologies to generate stable profits, while contributing to the development of photographic cultures

INSTAX Instant Camera

Expanding the lineup of high value-added products and printing demand by proposing new ways to enjoy.



Printing Business

Expand sales and profit by reinforcing sales of such high-value-added printing services as Photobook and Wall Décor.



Photobook



Photo goods



WALL DECOR



Shacolla

(Seal type)

Professional Imaging

- Established 2 pillars of differentiated mirrorless camera lineups; GFX Series with large-size, 1.7 times of the full-size sensor and ultra-high image quality, and X Series with small-sized, lightweight body and high image quality
- High optical technology and high-precision processing, assembly technologies, focusing on high-value added, growing area such as 4K/8K-compatible broadcasting lenses. Monitoring, measurement, digital signage: Promote image recognition solutions business

Digital Camera



GFX Series



X Series



Interchangeable lens

Broadcasting, Cinema lenses



Surveillance, Machine vision lenses



Projector



Digital Signage



Investor Relations Website

- **FUJIFILM Holdings - Investor Relations**
<https://ir.fujifilm.com/en/investors.html>
- **Earnings Presentations**
<https://ir.fujifilm.com/en/investors/ir-materials/earnings-presentations.html>
- **IR Events Materials**
<https://ir.fujifilm.com/en/investors/ir-materials.html>
- **Integrated Report**
<https://ir.fujifilm.com/en/investors/ir-materials/integrated-report.html>
- **Sustainability Report**
<https://holdings.fujifilm.com/en/sustainability/report>

FUJIFILM
Value from Innovation

90th
Toward
Tomorrow **100**