



# DX Comprehensive Strategy

Integrated Digital Strategy Div.

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# 1. DX Comprehensive Strategy

## What is Digital Transformation at Mitsui?

An improvement in productivity and sales, the transformation and/or creation of business models, and the creation of value as a means to improve profitability through the utilization of digital technologies and improvements in OT\* (Operational Technology)



AI / IoT, robotics, big data

\* OT: Full trading company operational know-how including product knowledge, business expertise, marketing skills, logistical functions, legal matters, human resources, and project management

# 1. DX Comprehensive Strategy

## Background to Mitsui's Digital Transformation (DX)

Date	Business Unit DX	Corporate DX
May 2017	Appointment of <b>CDO</b> (Chief Digital Officer)	
January 2018	Establishment of d.space (GT Building)	
February 2018	Creation of full-time Digital Transformation Team (around 20 people, stationed in d.space) in the Corporate Planning & Strategy Div.	Formation of cross-sectional task force
May 2018	Establishment of d.space (JA Building)	
October 2019	Merger of the Corporate Planning & Strategy Div. DT Team with the Information Technology Promotion Div. to create <b>the Integrated Digital Strategy Div.</b>	
April 2020	Launch of a new structure at the Integrated Digital Strategy Div. (integration of supervising responsibility for all systems company-wide), appointment of Chief Digital Information Officer ( <b>CDIO</b> )	
May 2020	Establishment of d.space (New HQ, Otemachi One)	
October 2020	Promotion of " <b>DX comprehensive strategy</b> " and reorganization of Integrated Digital Strategy Div.	

# 1. DX Comprehensive Strategy

## Two initiatives in Mitsui's DX comprehensive strategy

	Parent company	Affiliated companies
Offensive DX New business creation (T) Revenue stream growth of existing business (S2)	<b>Business unit DX</b> > ① <b>DX business strategies</b> <ul style="list-style-type: none"> <li>• Construction platform</li> </ul>	<ul style="list-style-type: none"> <li>• Medical information platform</li> <li>• Credit scoring</li> <li>• Optimizing vessel operations</li> <li>• Dynamic pricing</li> <li>• Real estate STO</li> <li>• D2C product development</li> <li>• Digital twinning</li> <li>• Increase efficiency of exploration by AI solutions</li> </ul>
Defensive DX Cost reduction of existing business (S1)	<b>Corporate DX</b> > ② <b>DD management strategies</b> <b>Fundamental improvement of productivity through utilizing data</b> <ul style="list-style-type: none"> <li>• Affiliated company management dashboard (improvement of business processes, reporting, and management improvement)</li> <li>• Improvement in Operational efficiency through RPA/OCR, etc.</li> <li>• Improvement in efficiency of email/meetings, etc.</li> </ul>	

# 1. DX Comprehensive Strategy

## Outline of vision for Mitsui's DX Comprehensive Strategy

# Business Transformation & Innovation with Digital

### DX Business Strategy

- ◆ **Real (Operational Technology) x DX**
- ◆ **Independent** business management using digital as leverage
- ◆ **Industrial solutions to social issues via digital**
- ◆ Fully **end-user focused**

### DD Management Strategy

– Mitsui is People and Data –

- ◆ **Faster, more accurate decision making** with data
- ◆ Process improvement through **using and sharing** data
- ◆ Data for **using, not for viewing**
- ◆ Data is a **company asset**

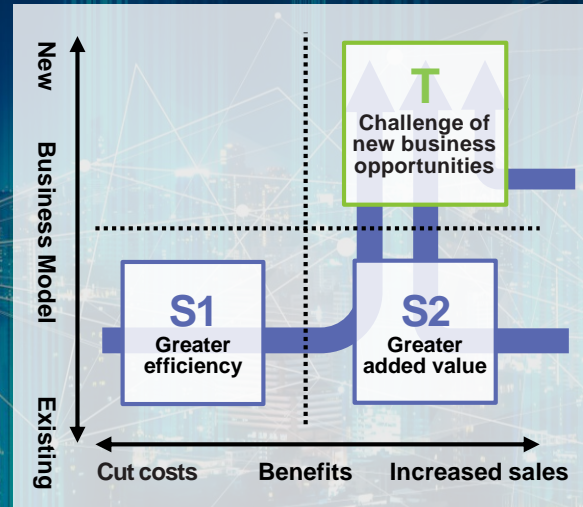
### DX Business Strategy and DD Management Strategy commonalities

- ◆ Foster next-generation management talent with **DX as a basic standard**
- ◆ Establish constant innovation through DX as **Mitsui's corporate culture**

## 2. DX Business Strategy Vision

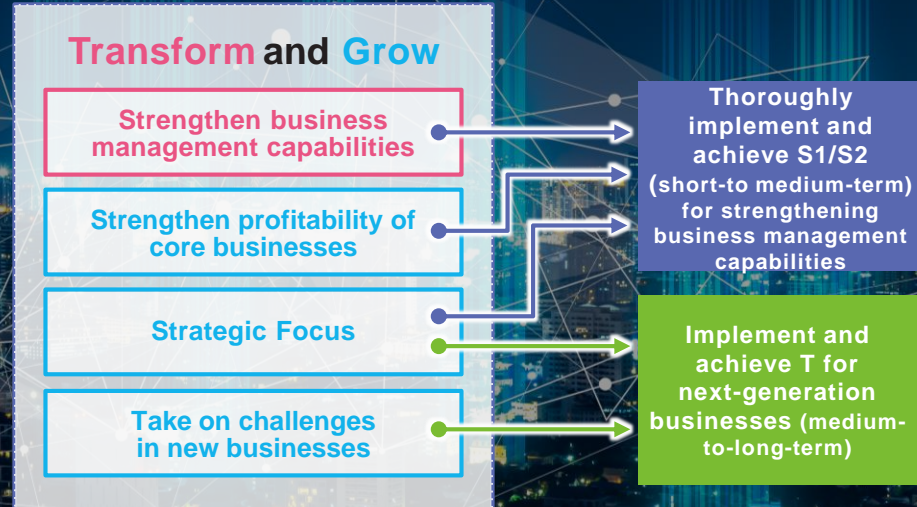
Two directions...

### DX Framework



S: Solution T: Transformation

### Medium-term Management Plan 2023



## 2. DX Business Strategy Vision

### Six Key Strategic Areas

Contribution to Medium-term Management Plan 2023	Strengthen business management capabilities		Strategic Focus			
	Strengthen profitability of core businesses		Take on challenges in new businesses			
	Personal strategy					
	Thoroughly Implement S1/S2			Implement T for next-generation businesses		
Key strategic areas	① Existing businesses DX of asset foundation	② DX of trading and logistics foundation	③ DX of consumer business foundation	④ Large-scale DX of social infrastructure	⑤ DX from viewpoint of utilizing new technologies	⑥ DX from viewpoint of industry destruction/creation cycle
Core business units	Infrastructure Projects, Mobility, Chemicals, Food	Iron & Steel, Chemicals, Food, Energy, Mineral & Metal Resources	Retail, HS, AP, ICT	ES, Infrastructure Projects, Mobility, ICT	Mobility, ES, HS, CD, N&A, ICT	ICT
Results	Digital twinning Credit scoring Optimizing vessel operations Increase efficiency of exploration by AI solutions FaaS	Improvement in operational efficiency through RPA/AI-OCR B to B EC	Medical data platform D2C product development	Next-gen mobility Smart cities Renewable distributed power supply	AI-based cancer diagnostics Dynamic pricing Real-estate STO DD Drug-discovery support	Collaboration  Moon

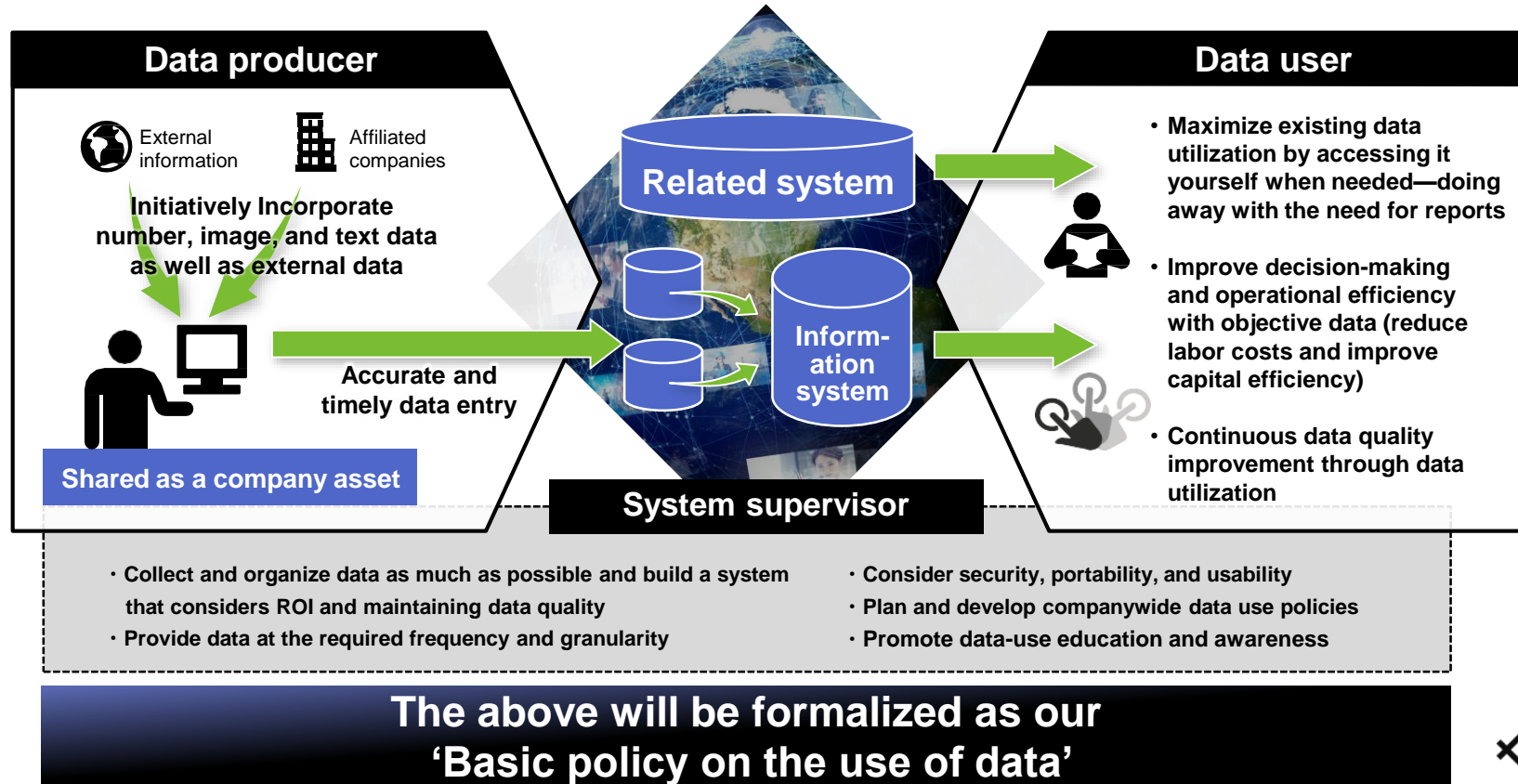
Quick Win

Utilization of accumulated know-how and knowledge

Big Win

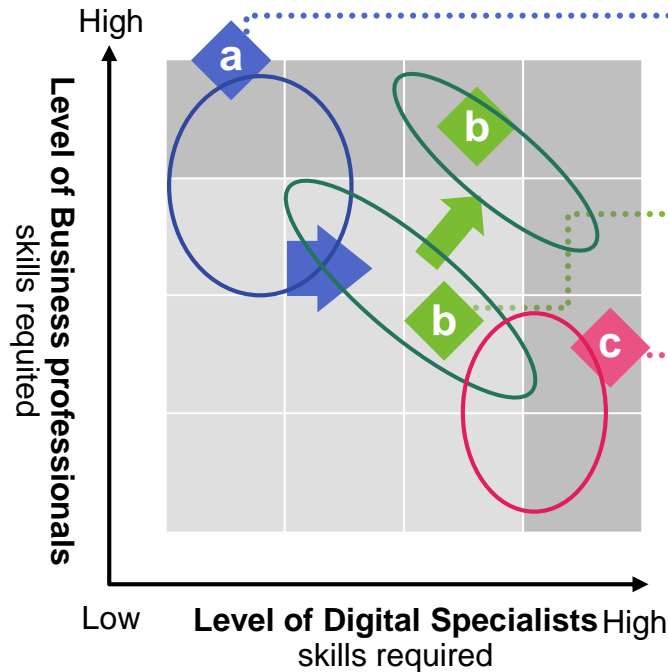


### 3. DD Management Strategy Vision



## 4. DX HR (DX Comprehensive Strategy Commonalities)

### ◆ Business × digital skill map



### ◆ Type of human resources who is responsible for DX

#### a Business Professionals

- ◆ Those who possess industry OT (knowledge, skills, and experience)
- ◆ Organizational affiliation : Business units and corporate
- ◆ **Raise the base level of DX literacy and train superusers through providing companywide DX basic training**

#### b DX Business Professionals

- ◆ Those who are highly knowledgeable about both business and digital, capable of creating the overall design of a business model or service, and who can generate ideas based on understanding of consumer/customer needs
- ◆ Organizational affiliation: Integrated Digital Strategy Div., IT & Communications, and other Business Units
- ◆ Development target: **100 people globally (3-year cumulative)**

#### c DX Technology Professionals

- ◆ Those who can provide high-level DX technology (data science, security, UIUX, etc.)
- ◆ Organizational affiliation : Integrated Digital Strategy Div.\*, DX company that we have invested in, subsidiaries, external DX vendors

\*A certain number of data scientists will be produced in-house

## 5. Driving DX: d.space

- ◆ Office spaces where specialist personnel who implement DX-related activities and carry out research are stationed. They function as company-wide contact points for DX-related advice and are also used as normal meeting spaces
- ◆ A new d-space area has been established in the “Camp” on the 25th floor of the new Head Office building (next to the Integrated Digital Strategy Div.)



# Appendix: Mitsui & Co. DX Activities

## Key strategic area ①



- ◆ Adopted for FPSO (floating production, storage & offloading) systems used in MODEC's offshore mining development project in Brazil.
- ◆ The project has succeeded in reducing down-time immediately after the start of operations by up to 65% by carrying out predictive maintenance through collecting and accumulating operational data collected via IoT, creating digital twins of topside oil and gas production facilities, and sophisticated analyses using its own data platform.
- ◆ In January 2020, MODEC was recognized as one of the world's most advanced manufacturers and a leader of the Fourth Industrial Revolution when it was awarded "Lighthouse" status by the World Economic Forum (WEF).



Source: MODEC, Inc.

# Appendix: Mitsui & Co. DX Activities

## Key strategic area ①



### Fintech / Credit scoring

- ◆ Having obtained excellent results from a trial advanced analysis using accumulated data at Bussan Auto Finance (BAF) Indonesia, Mitsui & Co. established Global AI Innovations Laboratory (GAILABO) as a joint venture with Sony Network Communications (SNC) to provide SaaS-type AI solutions services.
- ◆ BAF Indonesia and Mitsui Auto Finance (MAF) Chile will progressively apply this system to their credit and recovery operations.
- ◆ This is expected to yield major cost reductions, including lower credit screener costs and bad debt write-downs, and reduced monitoring of debt collectors.
- ◆ In addition to its roll-out in finance-related businesses, we plan to use the system in Mitsui & Co. operations, and to accumulate successful case studies in a bid to market the service externally.



**Sony  
Network  
Communications**

# Appendix: Mitsui & Co. DX Activities

## Key strategic area ①



### Shipping operations optimization

- ◆ The IT & Communication Business Unit has invested and participated in AI Fund, which was established by Professor Andrew Ng, an international authority on AI.
- ◆ Using data from past voyages and data collected from IoT devices, AI Fund has developed a deep-learning algorithm and built a fuel consumption-forecasting model that is more accurate than previous models.
- ◆ In October 2019, AI Fund and Mitsui & Co. established a joint venture, BEARING.ai, in Silicon Valley.
- ◆ Streamline fuel costs, which make up 55% of ship operation costs(global consumption 10 trillion yen a year).
- ◆ Leading ship operators are participating as trial partners.

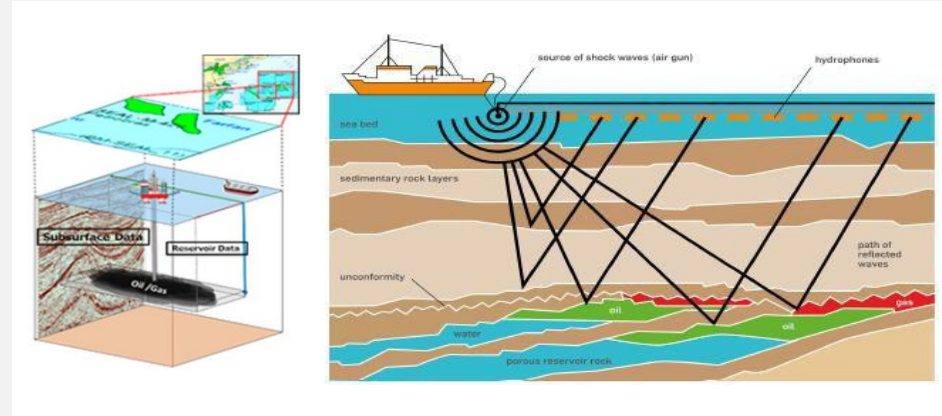


# Appendix: Mitsui & Co. DX Activities

## Key strategic area 1

### Using AI to analyze subsurface structures

- ◆ Together with Preferred Networks, Inc., Mitsui & Co. established a new joint venture to develop and commercialize AI solutions for sub-surface structure analysis based on deep-learning technology.
- ◆ The aim is to develop and commercialize AI solutions for exploration of underground resources such as oil and gas, and also to use these solutions for the development of low-carbon solutions such as CCS (Carbon Capture and Storage), as well as areas in the renewable energy sector.

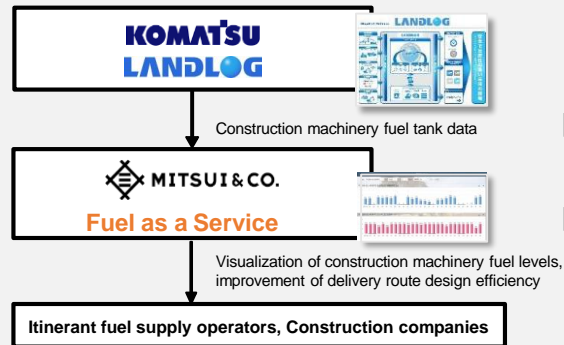


# Appendix: Mitsui & Co. DX Activities

## Key strategic area ①

### Construction platform

- ◆ Provided a data platform for use in the construction machinery industry.
- ◆ The platform provides information to fuel supply operators serving hydraulic shovels and other construction machinery.
- ◆ The roll-out of the fuel as a service (FaaS) business has led to the use of the platform for other services.



**The aim is to improve efficiency and productivity throughout the construction industry by developing a construction industry e-commerce platform.**



# Appendix: Mitsui & Co. DX Activities

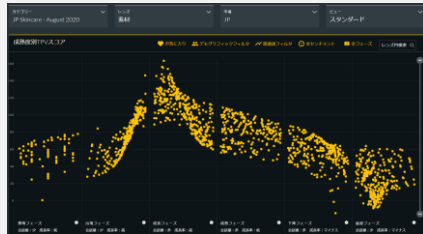
## Key strategic area ③



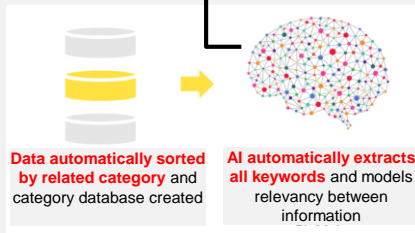
## D2C product development

- ◆ The AI analyses social media and the internet to identify future consumer trends and enables swift progress from concept planning to product trials by leveraging Mitsui's knowledge of materials and capabilities for recipe development.

### AI system (Black Swan)

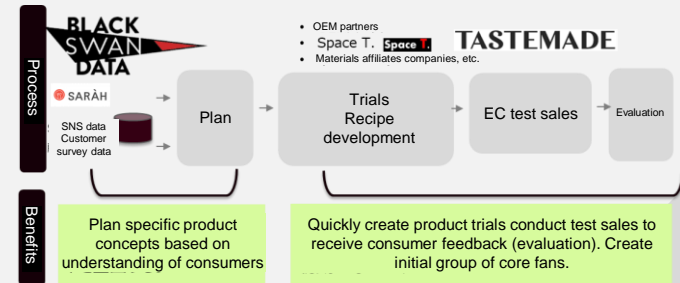


In the skincare category, added roughly 2998 keywords for materials, 1501 keywords for products, and 187 for beneficial effects. Keywords are updated monthly and consumer trends revised constantly.



- ◆ Through D2C e-commerce sales, Mitsui implements PDCA cycles while simultaneously obtaining highly granular data on consumers. It also ran a promotion for the Tastemade community, successfully creating an initial group of core fans.

### Unearthing trends to test sales in as little as 6 months



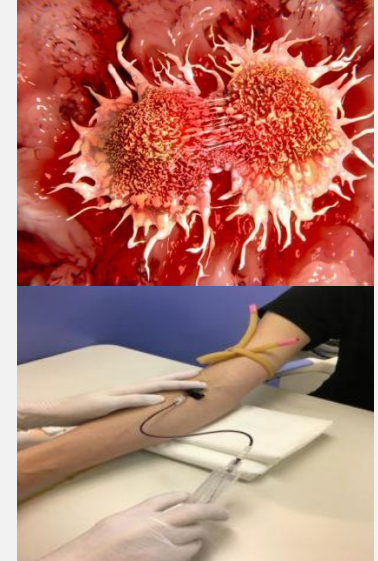
## Appendix: Mitsui & Co. DX Activities

### Key strategic area 5



### AI-based cancer diagnostics

- ◆ In November 2018, HS Business Unit staff led the establishment of Preferred Medicine in Silicon Valley as a joint venture with Preferred Networks (PFN), a leading AI company in which the ICT Business Unit has invested.
- ◆ PFN's deep learning (DL) cancer diagnosis technology has been combined with healthcare-related business in Mitsui's network.
- ◆ The aim is to commercialize bio-healthcare solutions based on the use of DL technology.
- ◆ Technology is being developed for practical use in the early detection of multiple types of cancer from blood.

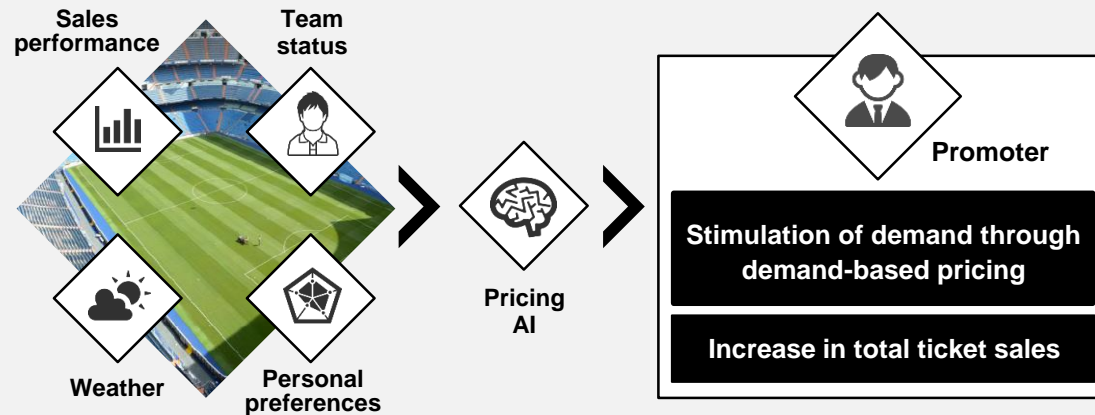


# Appendix: Mitsui & Co. DX Activities

## Key strategic area ⑤

### Dynamic Plus **Dynamic pricing**

- ◆ By using big data and AI for demand forecasts, prices are automatically adjusted, which has led to increased total ticket sales.
- ◆ Dynamic Plus was established in June 2018 with Yahoo!, Pia, and Avex as shareholders.



This system will be rolled out for various service-based businesses, starting with J-League soccer, professional baseball, and B-league basketball.

# Appendix: Mitsui & Co. DX Activities

Key strategic area ⑤



MITSUI & CO.  
DIGITAL ASSET MANAGEMENT

Real estate STO

\* STO =Security Token Offering



## Mitsui & Co. Digital Asset Management (Co., Ltd.)

Established	04/01/2020
Location	Chuo-ku, Tokyo
Business area	Asset management of real assets using blockchain technology
Shareholders	Mitsui & Co. 54%, Layer X 36%, SMBC Nikko Securities Inc. 5%, Sumitomo Mitsui Trust Bank 5%

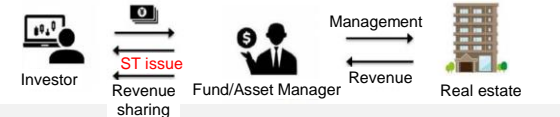
Established on April 1, 2020 in partnership with LayerX—a company with a comprehensive digital technology background including in blockchain technology. The aim is to manage real estate and infrastructure funds worldwide by raising funds through the issuing of security tokens (ST).



## Proof-of-concept fund organization

Acquired a part of the trust beneficiary right of Rokko Island DC in April 2020 as the first fund (proof-of-concept fund) using security token platform.

Investments into real assets less prone to market fluctuations



- Issues digital securities using blockchain technologies and fundraises within the framework of existing financial instruments regulatory authorities.
- Builds highly reliable investment platforms using blockchain technology to ensure system stability and information security.
- Aims to provide attractive earnings opportunities that are stable against market fluctuations by specializing in projects that deal in contractual cashflows.
- Considers providing opportunities for joint investment into real estate and infrastructure assets developed by Mitsui group companies worldwide.

# Appendix: Mitsui & Co. DX Activities

Key strategic area ⑥

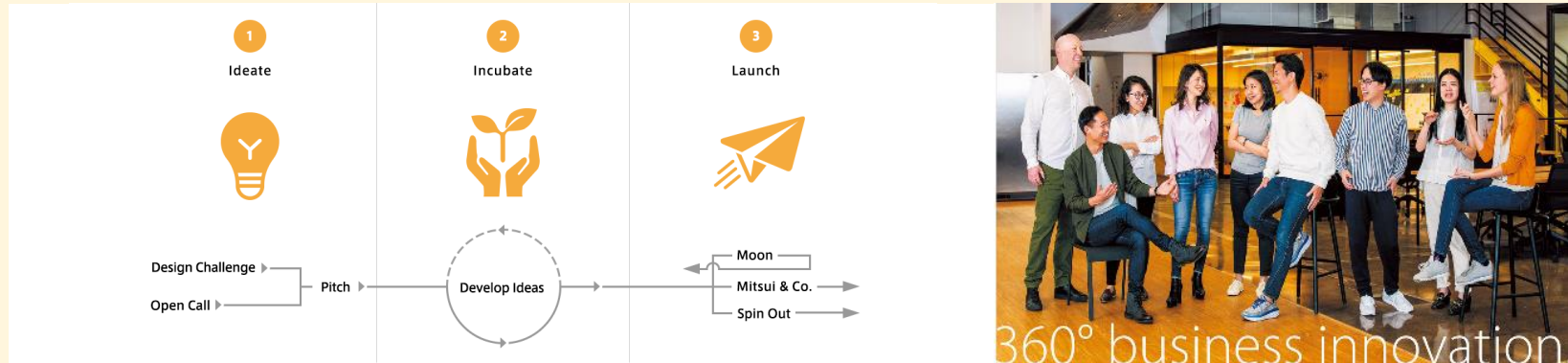
moon  
creative lab



DX Strategy

Business creation platform

- ◆ Moon Creative Lab, based in the U.S. and Japan, was established in August 2018.
- ◆ Looks for creative ideas from its global staff based on the idea that “business is the birthplace of new ideas.”
- ◆ Increases the possibilities for general trading companies and instills a mindset and behavioral patterns related to the idea of creating one’s own business. Collaboration from the viewpoint of DX.



# Appendix: Mitsui & Co. DX Activities

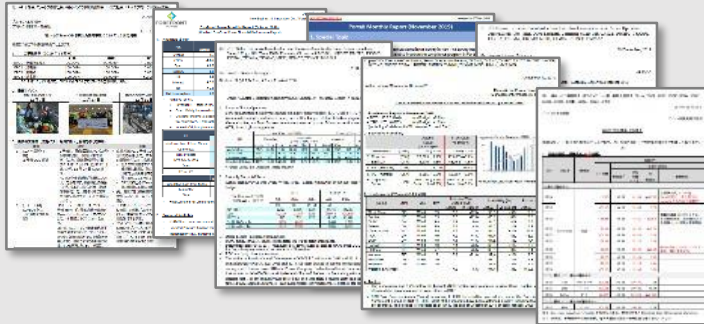
## DD management

## Initiatives to improve the monthly reports of affiliate companies

### Before

#### Issue

- Different formats used at different affiliates
- Difficult to make comparisons between centralized management at business units and individual companies
- Difficult to know what is going on at each company (plan comparisons, etc.)
- There is a lot of information, but with so many indicators it is hard to know what is important (Takes time to understand)



### After

#### Action

- Information displayed in the same forms across companies after confirming important indicators and formats
- Important KPIs are listed at the top and display can be changed with the click of a button
  - (1) Indicators: EBITDA, PAT, etc.
  - (2) Formats: Plan comparisons, progress rates, forecasts, etc.

