

ESG Presentation

MCI Group's Promotion of ESG	HASHIMOTO Osamu Representative Director, Member of the Board, President & CEO
1. Group-wide risk management	ICHIMURA Satoshi Managing Executive Officer & CSO
2. Innovation · Digital Transformation	YOSHINO Tadashi Representative Director, Member of the Board, Senior Managing Executive Officer, CTO SHIBATA Shingo Managing Executive Officer, Center Executive, R&D Center SAMBE Masao Managing Executive Officer, CDO, Sector President, Digital Transformation Sector
3. Outside Director's Perspective	MIMURA Takayoshi Member of the Board



Mitsui Chemicals
Group

MCI Group's Promotion of ESG

HASHIMOTO Osamu

橋本 修

Representative Director, Member of the Board, President & CEO
Mitsui Chemicals, Inc.

July 9, 2024

Corporate Mission

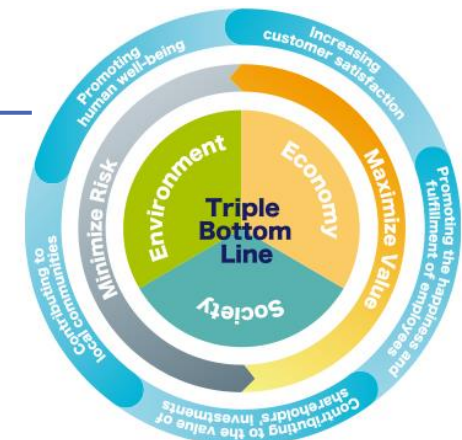
Contribute broadly to society by providing high-quality products and services to customers through innovation and the creation of materials, while keeping in harmony with the global environment

Corporate Target

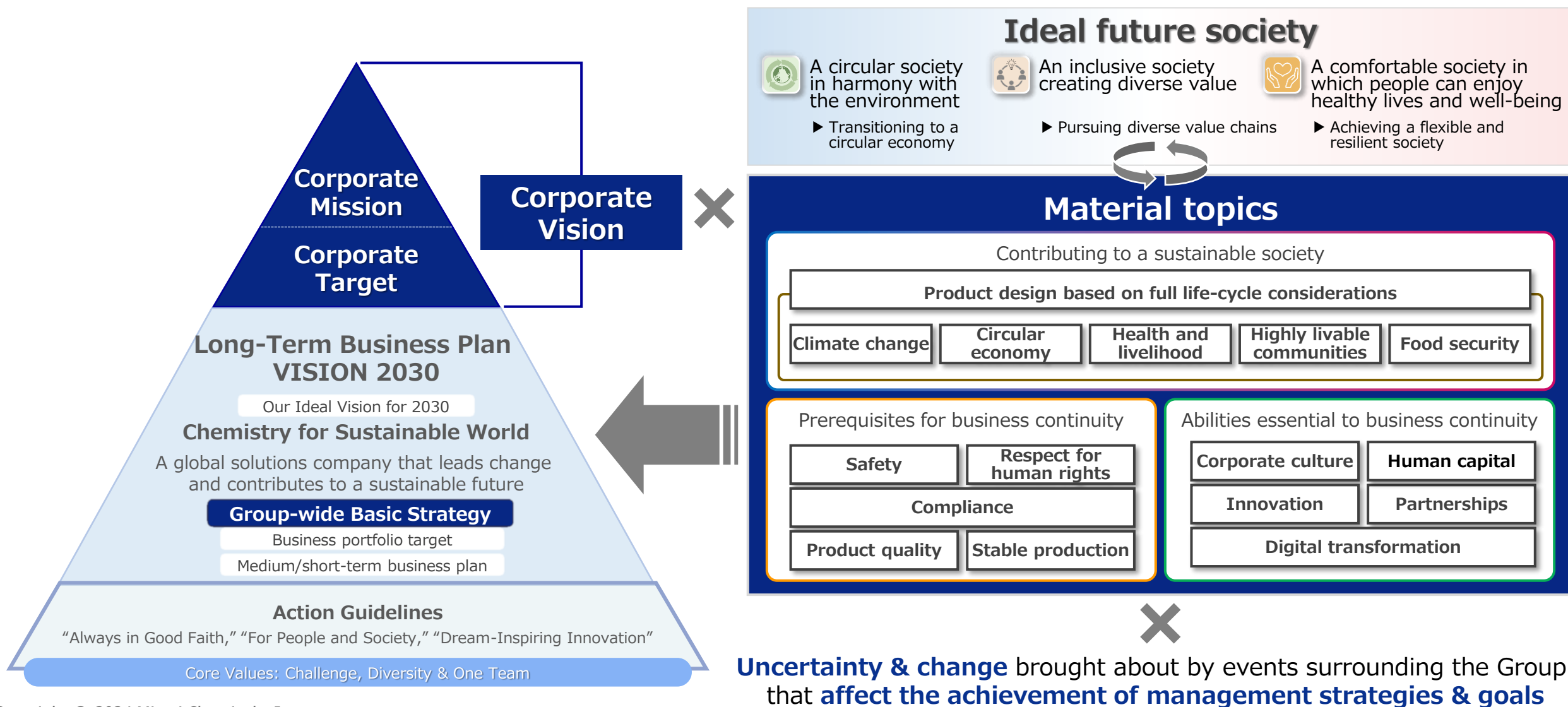
To be a corporate group that continues to grow by solving social challenges and creating diverse value with the power of chemistry

Triple Bottom Line

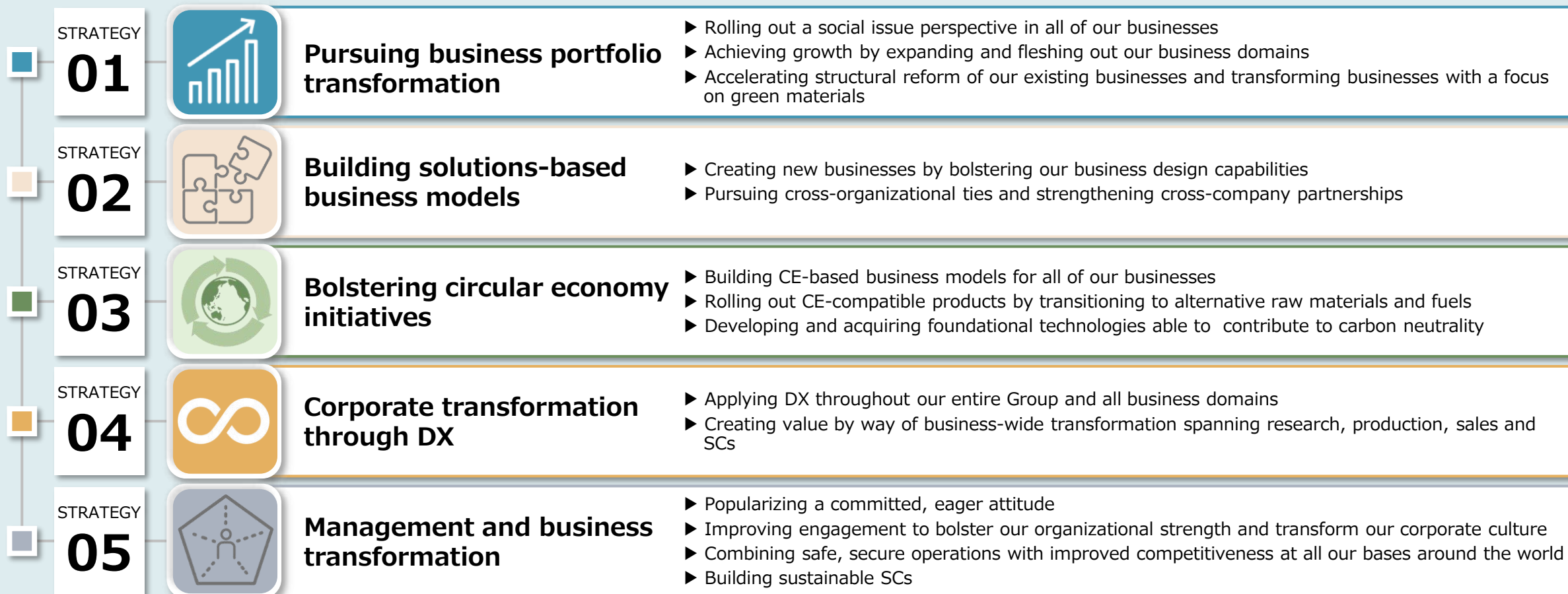
The Mitsui Chemicals Group is looking to secure its sustainable growth and development in harmony with society. To this end, we are advancing triple bottom line management, which incorporates economic, social, and environmental measures, engaging in operations from a long-term perspective, and promoting measures that are designed to help resolve social issues.



Pursuing VISION 2030, which incorporates both our corporate vision and material topics, while responding to environmental changes by updating our initiatives.



Pursuing business portfolio transformation, along with the transformation of our business models and our corporate and business infrastructure by driving digital transformation



Pursuing Corporate Transformation through VISION 2030



Mitsui Chemicals
Group

1. Group-wide risk management

ICHIMURA Satoshi

市村 聡

Managing Executive Officer & CSO
Mitsui Chemicals, Inc.

July 9, 2024

- ▶ **1. Corporate Sustainability Policy**
- ▶ **2. Group-wide risk management**
- ▶ **3. Key Group-wide risks**
- ▶ **4. Efforts to Address the Most Important Risks**

The Mitsui Chemicals Group's policy on ESG promotion is to achieve sustainable development by maximizing value and minimizing risk

Incorporating ESG into our corporate management and strategy is part of risk management

Corporate Sustainability Policy

In accordance with SDGs and various other topics under the umbrella of ESG, we will aim to:

- Look for business opportunities, and leverage our business activities to help solve social issues
- Recognize and deal with future risks*¹ lying ahead of the Mitsui Chemicals Group while fulfilling our social responsibility as a company

In order to:

Pursue sustainable development of both society and the Mitsui Chemicals Group (in a manner that improves both social value and corporate value)

From the corporate sustainability promotion committee rules

Challenges

Environment

Climate change, circular economy, conservation & restoration of natural capital, etc.

Social

Health & livelihood, highly livable communities, food security, respect for human rights, acquisition, cultivation & use of human capital, etc.

Governance

Compliance, corporate misconduct, corruption, etc.

Response

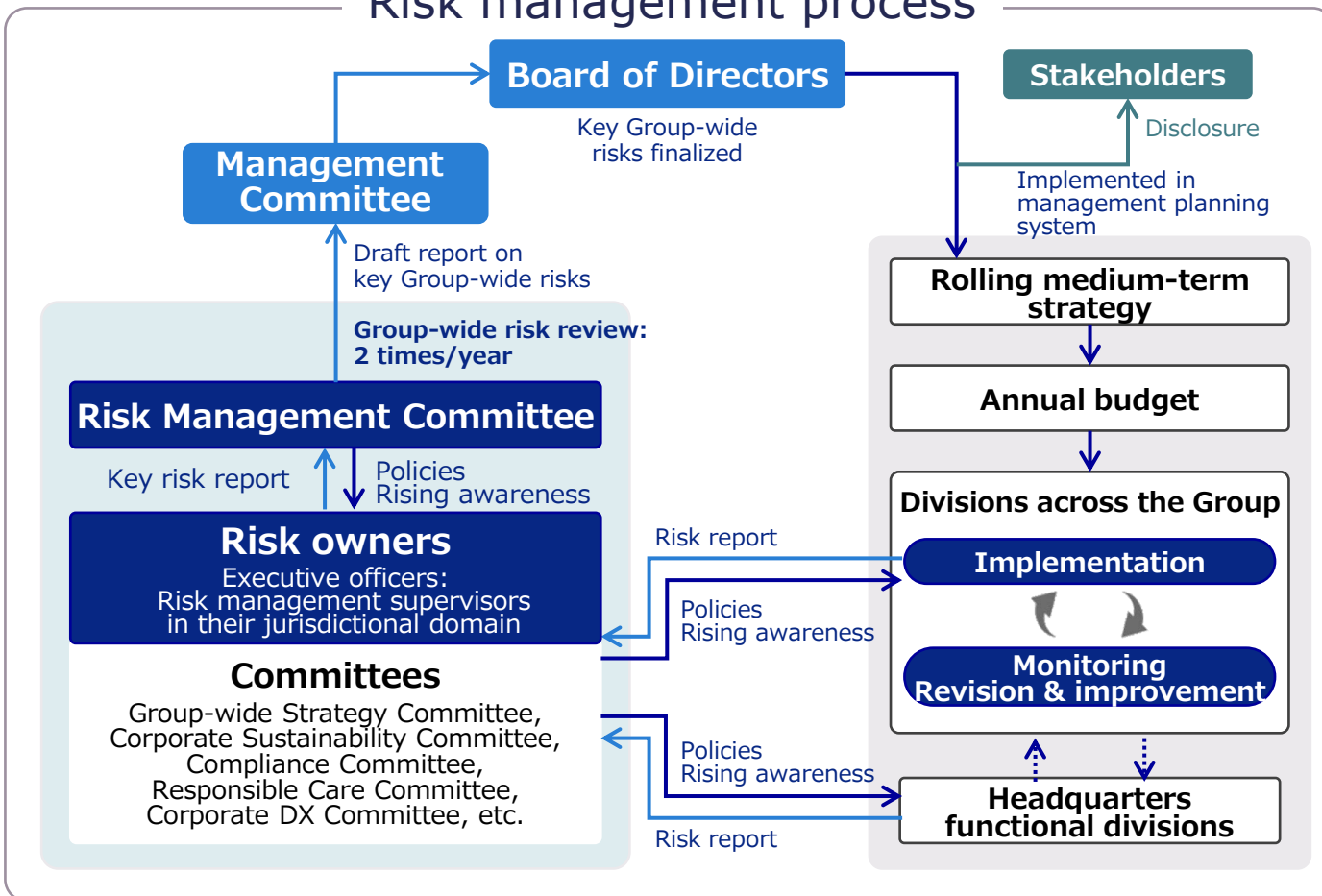
Contribution through business activities that take advantage of opportunities + Minimization of threats = Risk management*²

*¹ Risk: **Uncertainty and change** brought about by events surrounding the Group that affect the achievement of management strategies and goals

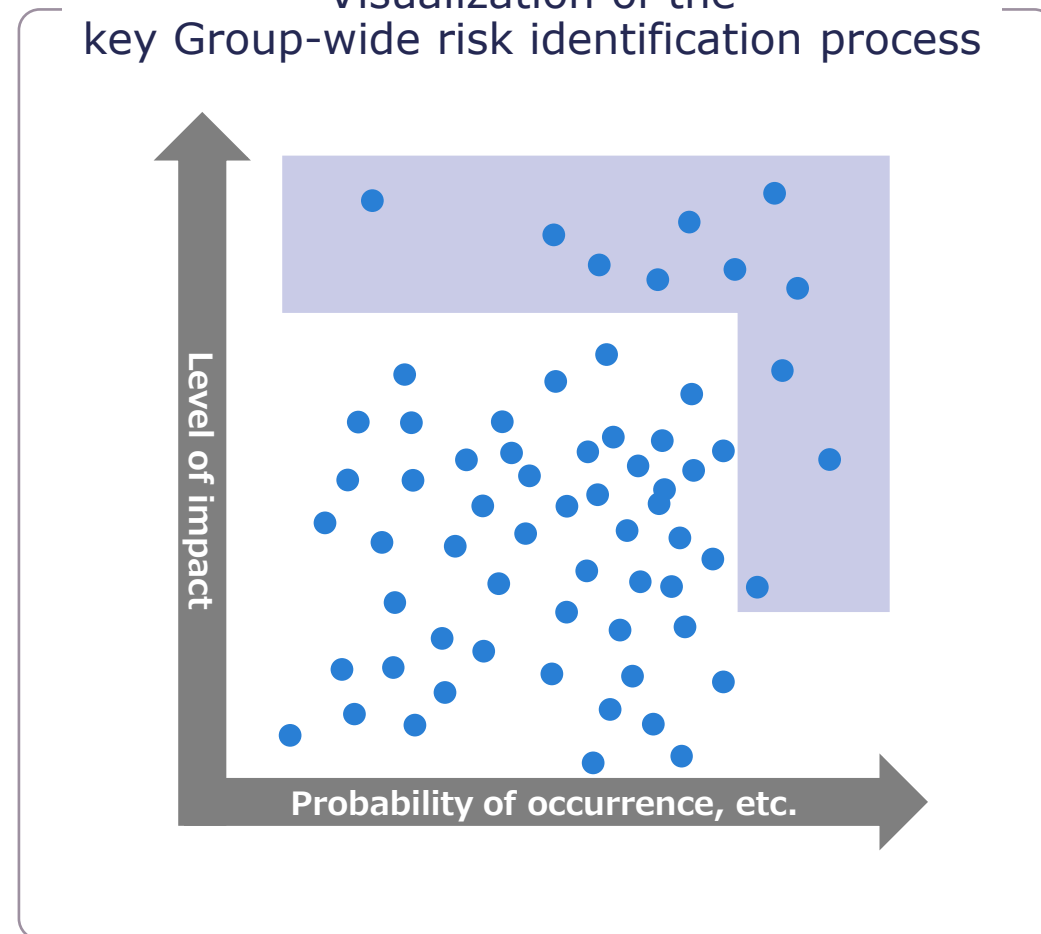
*² Risk management: Continuous application of the PDCA cycle in regard to processes & measures for **minimizing threats** induced by risk & **taking full advantage of opportunities**, along with the development of organizational structures for this purpose

- Fiscal 2023 saw us overhaul our risk management system in order to **minimize threats to growth and take full advantage of opportunities**
- After objectively evaluating risks identified and proposed by executives, the Board of Directors identifies the key Group-wide risks

Risk management process



Visualization of the key Group-wide risk identification process



3. Group-Wide Risk Management & Review of Material Topics/Non-financial KPIs

After checking the consistency of the responses to the key Group-wide risks identified with the material topics/non-financial KPIs, we have made some revisions

Key Group-wide risks	Material topics	Non-financial KPI	
① Business continuity risks ② Production/quality risks ③ Compliance risks ④ Technological innovation risks ⑤ Climate change risks ⑥ Natural capital risks ⑦ Human rights risks ⑧ Business infrastructure risks ⑨ Digital transformation risks ⑩ Corporate management and supervision risks ⑪ Macroenvironmental risks	Climate change	<ul style="list-style-type: none"> Blue Value™ products sales revenue ratio Rose Value™ products sales revenue ratio GHG emissions reduction rate (Scopes 1 and 2) *compared to FY2013 	
	Circular economy		
	Health and livelihood		
	Highly livable communities		
	Food security		
	Product design based on full life-cycle considerations		
	Safety	<ul style="list-style-type: none"> Incidence of major accidents & serious occupational injuries 	
	Respect for human rights	<ul style="list-style-type: none"> Response to human rights risks 	
	Compliance	<ul style="list-style-type: none"> Incidence of major legal and regulatory violations 	
	Product quality	<ul style="list-style-type: none"> Incidence of PL accidents & serious product quality incidents 	
	Stable production	<ul style="list-style-type: none"> Number of problems involving high-value losses 	
Corporate culture	<ul style="list-style-type: none"> Engagement score 		
Human capital		<ul style="list-style-type: none"> Successor coverage rate for critical positions Number of executive officers with diverse backgrounds (women, non-Japanese, mid-career hires); MCI Ratio of women in management positions (manager-level or above); MCI Average rate of lifestyle-related disease; MCI Frequency of absences from work due to mental health disorders; MCI 	
		Digital transformation	<ul style="list-style-type: none"> Number of data scientists
		Innovation	<ul style="list-style-type: none"> Number of development themes in the latter half of our Stage Gate System Number of new areas of development at our Frontier Technology Center
Partnerships		<ul style="list-style-type: none"> Sustainable production ratio 	

Having identified business continuity risks as the most important risks, **we have made provision for them in the budgets of all departments and are working to flesh out our response measures**

Envisaged events		Main response measures
Root cause	Event	
<p>Unexpected situations</p> <p>Major disasters/accidents, Emergence of geopolitical risks, Outbreak/spread of infectious diseases, Cyberattacks, etc.</p>	<ul style="list-style-type: none"> • Interruption/restriction of production/sales/R&D • Supply chain disruption 	<ul style="list-style-type: none"> • Updating BCP <ul style="list-style-type: none"> ✓ Procurement of supplies & materials from several sources, mutual use of global sites & plants, diversification of distribution routes ✓ Enhancement of the disaster resilience of production/R&D sites ✓ Maintenance of appropriate inventory ✓ Updating of the cyberattack recovery plan ✓ Formulation/updating of response measures in the event of a disaster involving a subcontractor ✓ Updating of BCP scenarios based on a major earthquake and implementation of more practical Group-wide drills, etc. • Response to vulnerabilities based on the results of IT system security checks at domestic and overseas subsidiaries & affiliates • Regular sharing of information with regional headquarters in case of emergency situations overseas, and checks of regional safety situations, etc.
<p>Growing demand concerning social challenges</p> <p>Climate change, Creating a recycling-oriented society, etc.</p>	<ul style="list-style-type: none"> • Interruption/restriction of production/sales/R&D • Reputational decline, reduced rating, withdrawal of investment 	<ul style="list-style-type: none"> • Apprehension of global trends & information concerning laws & regulations gained via regional headquarters & bodies to which MCI belongs, enhancement of internal information-sharing frameworks • Further refinement and implementation of the rules for Blue Value™ & Rose Value™ certification and operation • Establishment and pursuit of indicators & targets concerning recycling/biomass strategies, etc.



Mitsui Chemicals
Group

2. Innovation, Digital Transformation

YOSHINO Tadashi

芳野 正

Representative Director,
Member of the Board,
Senior Managing Executive Officer, CTO
Mitsui Chemicals, Inc.

SHIBATA Shingo

柴田 真吾

Managing Executive Officer,
Center Executive,
R&D Center
Mitsui Chemicals, Inc.

SAMBE Masao

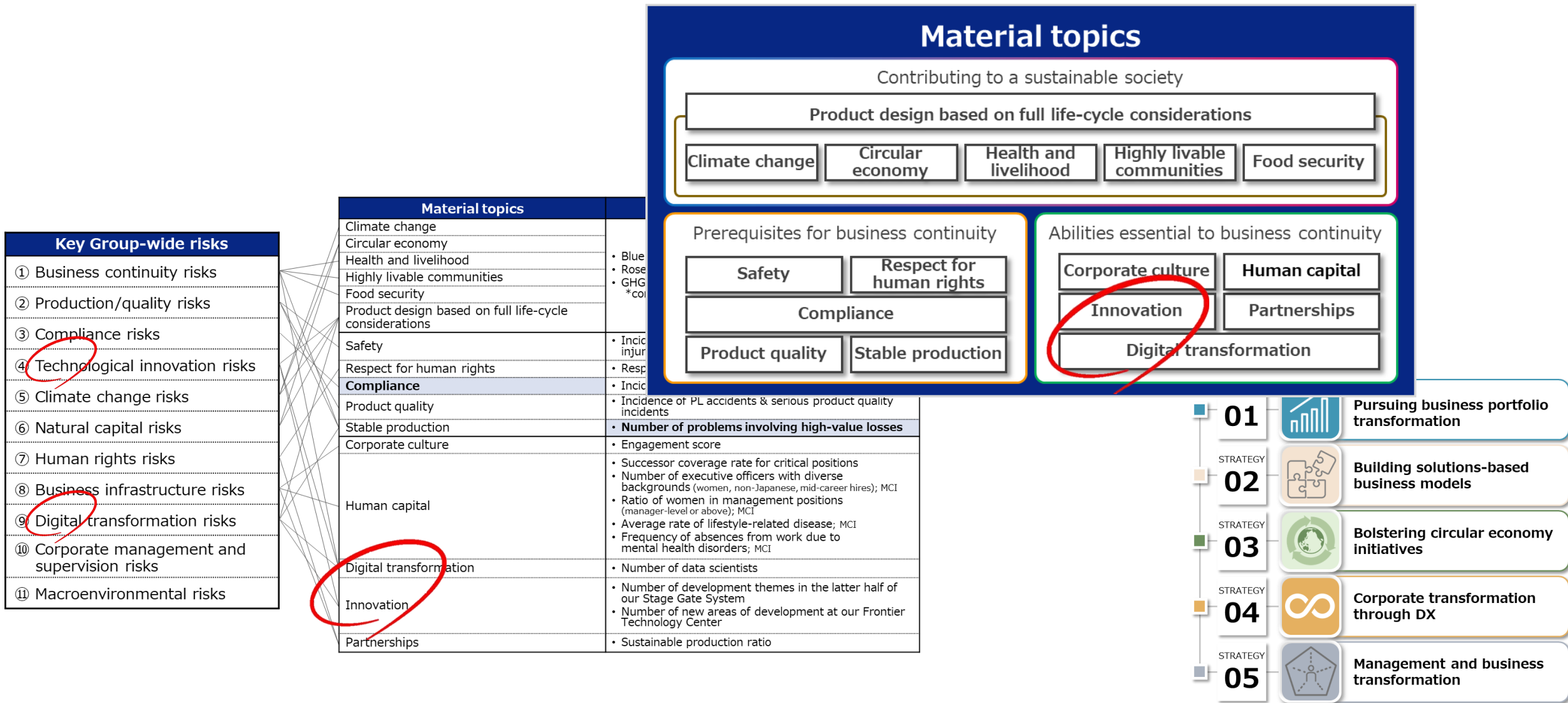
三瓶 雅夫

Managing Executive Officer, CDO,
Sector President,
Digital Transformation Sector
Mitsui Chemicals, Inc.

July 9, 2024

- ▶ **0. Introduction**
- ▶ **1. Accelerating R&D**
- ▶ **2. Transforming Production Sites**
- ▶ **3. Supporting Business Activities**
- ▶ **4. Conclusion**

Positioned among the key challenges we should address, innovation and digital transformation serve as boosters of business portfolio transformation



Pursuing initiatives aimed at achieving wide-ranging changes in people, organizations and society via the catalyst of digital transformation that overcomes a variety of boundaries

What **innovation will achieve** at Mitsui Chemicals

Contributing broadly to society by creating new value, via providing high-quality products and services to customers through innovation and the creation of materials with new technologies and ideas, improving production methods, entering into new markets and reforming organization, while keeping in harmony with the global environment

Identification of opportunities

Generation of ideas

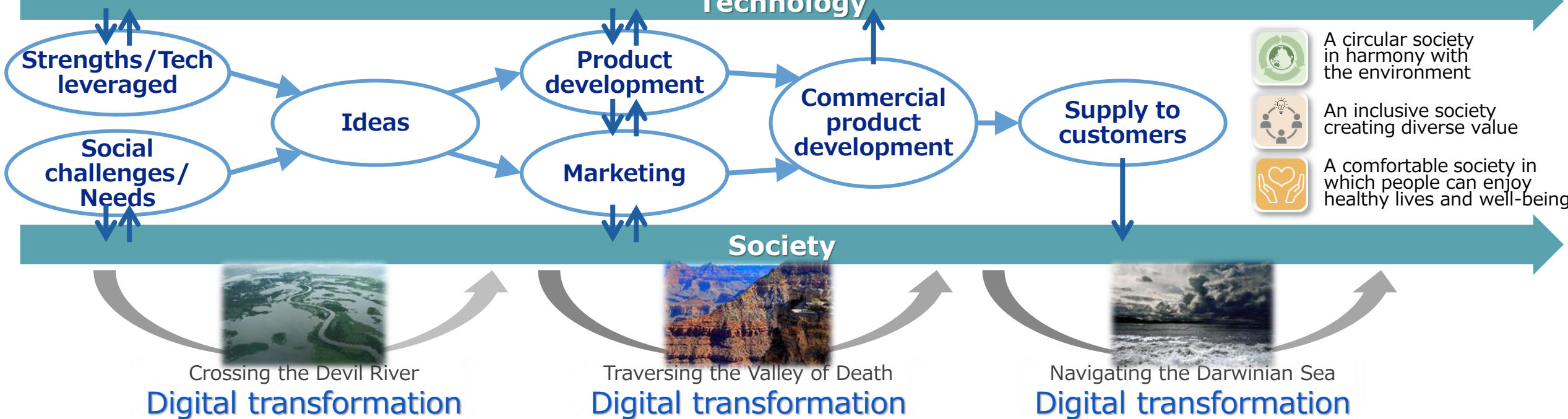
Development/
market research

Commercialization

Contribution to society

Technology

Society



- A circular society in harmony with the environment
- An inclusive society creating diverse value
- A comfortable society in which people can enjoy healthy lives and well-being

Crossing the Devil River

Digital transformation

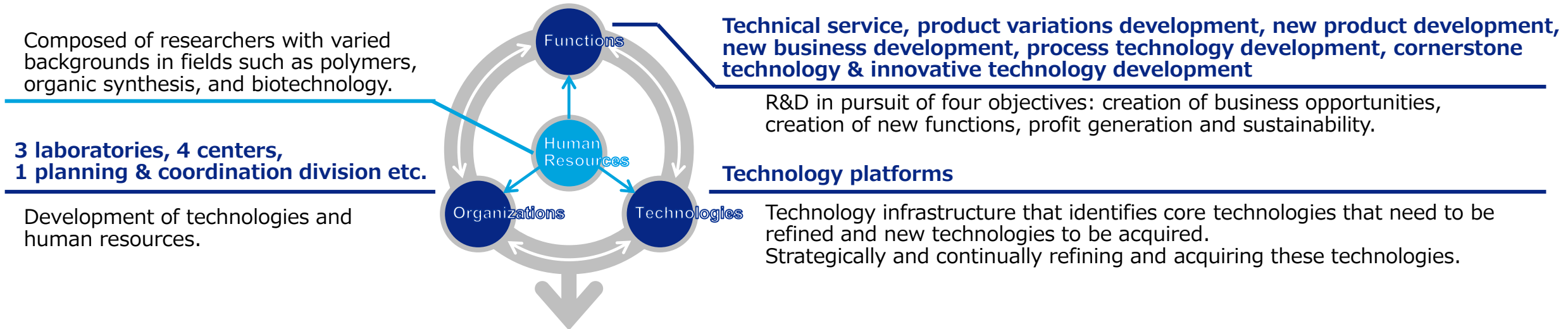
Traversing the Valley of Death

Digital transformation

Navigating the Darwinian Sea

Digital transformation

As well as bolstering and expanding the revenue base of Mitsui Chemicals' businesses, **we will continually create new value** through innovation that yields solutions to social challenges, and thereby serve as the driving force for shaping the future of Mitsui Chemicals



Research and development based on two approaches

2021

2025

2030

Beyond 2030

2050

Forecast-based R&D

A strategy to resolve foreseeable social issues

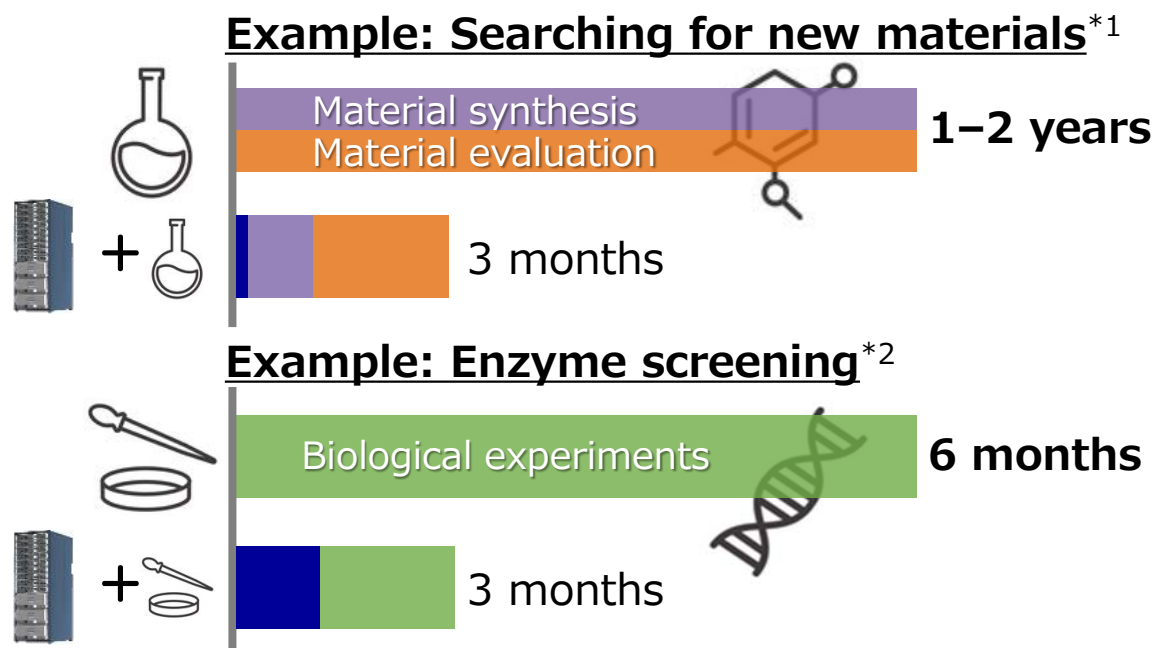
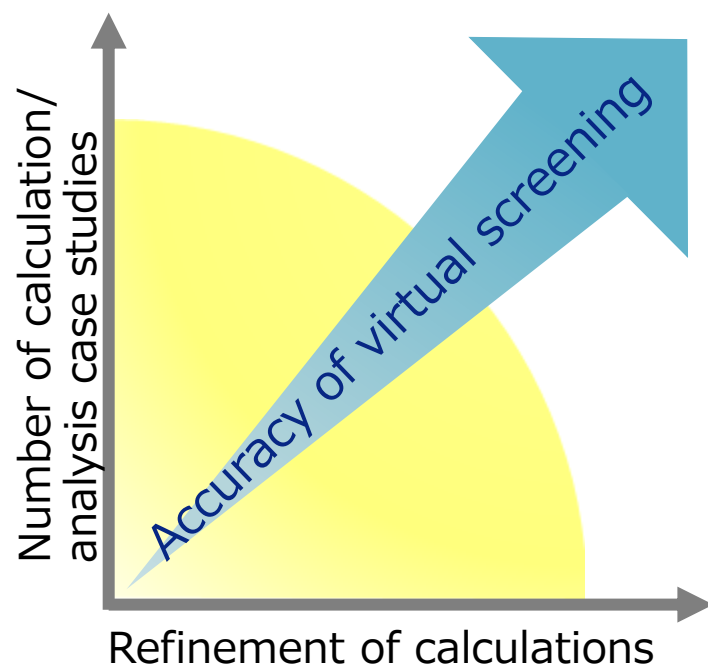
- Research based on our technologies conducted by taking advantage of our strengths
- Strengthening and expanding our technology platform in line with the social issues that we aim to resolve in each business portfolio

Backcast-based R&D

A strategy to help solve the social challenges of a difficult-to-predict future

- Carrying out research from a long-term perspective in which we first consider what sort of future we want to create out of a wide range of possibilities, then backcast from this to decide which issues to try and solve
- Identifying areas where we aim to expand businesses beyond 2030, without being constrained by our existing business portfolio, and carrying out research and development in those areas

Improving the level of virtual screening to achieve greater efficiency in chemical and biological experiments, thereby substantially speeding up R&D



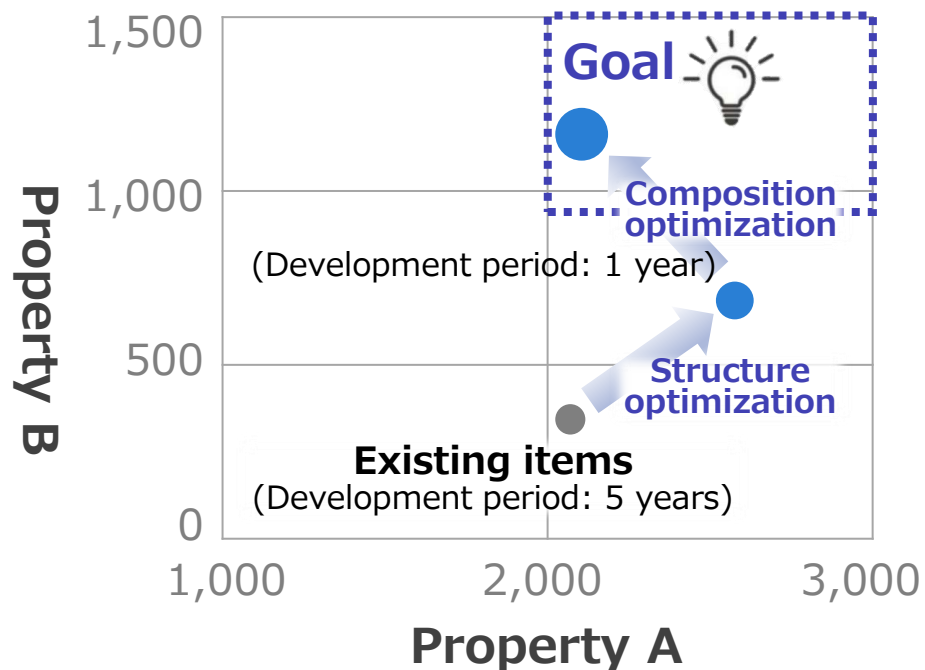
*1) Based on 1 month per candidate for material synthesis, with material evaluation (taking 2 months) carried out in parallel with synthesis. Based on calculations, a single candidate is verified via chemical experiments.

*2) Using calculations to narrow down randomly screened enzymes (evaluation of 10,000 candidate enzymes) to 5 candidates, which are then verified via biological experiments.

Leveraging the technology and knowledge we have amassed on MI, and speeding up new materials development by introducing HPC

Shorter development period through the use of MI*

*MI: Materials Informatics

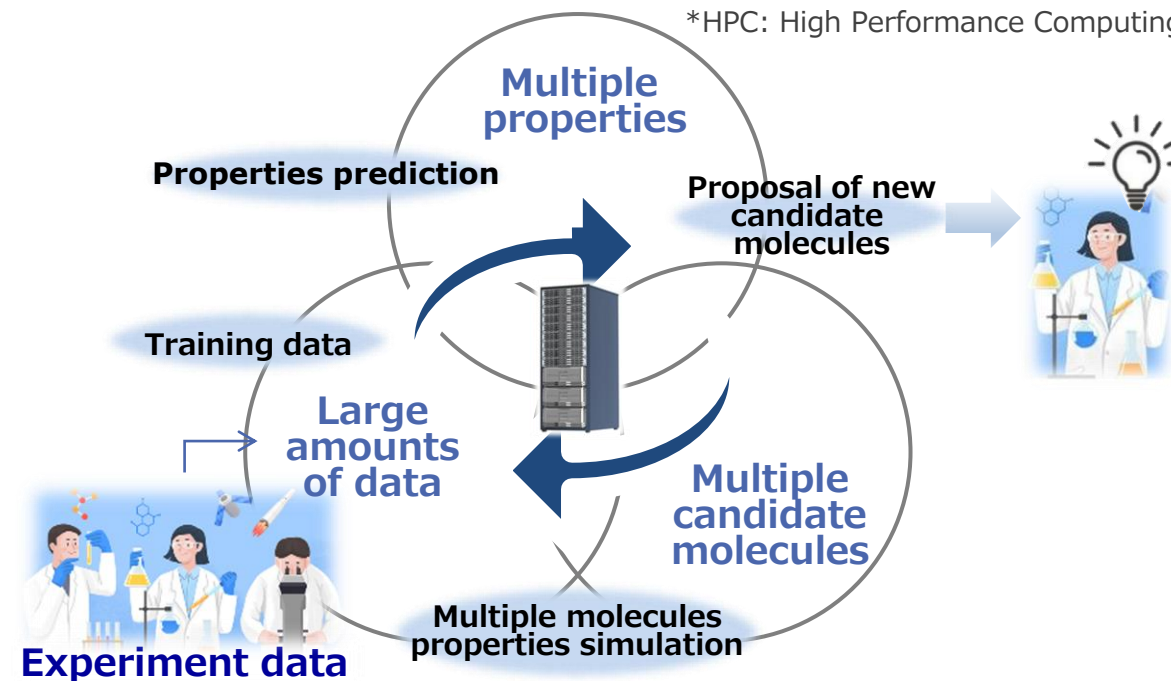


- Acquisition of the technology and knowledge we have amassed on MI
- Promotion of digital science education

More efficient development through the use of HPC*

Enables rapid screening of multiple candidate molecules
for multiple properties

*HPC: High Performance Computing



- Establishment of the Digital Science Lab.™
- Consolidation and cultivation of specialists

Operating plants efficiently, safely and stably by proactively introducing the IoT, AI and other advanced technologies

Leveraging digital technologies for:

- Risk visualization
- Simulation of emergency situations
- Creation & utilization of knowledge databases
- Appropriate disaster prevention, etc.

- Early detection & prevention of anomalies
- Upgrading of safety activities
- Preventing the spread and minimization of accidents

Efficiency

(Productivity)

Reduction in
production/quality losses

Using AI & digital twins to upgrade:

- Process simulations
- Control data analysis
- Image analysis, etc.

- Identification & control of variable factors relating to operation & quality
- Automation of steady operation
- Optimization of unsteady operation

Humans and AI to work together
to operate the plants
efficiently, safely and stably

Safety

Zero major accidents &
Serious occupational injuries

Stability

(Equipment reliability)
Zero problems
involving high-value losses

Leveraging new monitoring technologies & AI for:

- Facility diagnostics
- Failure prediction
- Deterioration monitoring, etc.

- Identification of timing of facility maintenance/upgrades, and facility repair
- Enhancement of resilience

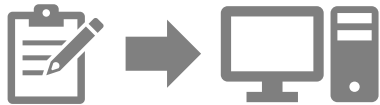
Infrastructure development

(digital infrastructure, production technology personnel, digitalization of technology data)

Pursuing infrastructure development by introducing various advanced technologies that help to enhance decision-making

Digitalization & visualization of information

- From paper to **electronic data**
- Making it possible to analyze not only figures, but also **words and images**



Operational efficiency improvements

Work site efficiency improvements



Audio & image transmission
Chat
Inspection records
Document sharing

Operation & maintenance tasks using mobile devices

Safety support

Linguistic AI

IBM Watson



Internal data base

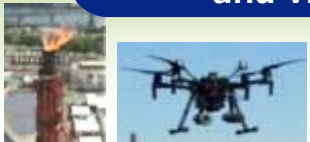
Inspection Technology
Occupational injuries Troubles

Risk identification by linguistic AI
Increasing the efficiency & accuracy of maintenance procedures

Enhanced decision-making

- Moving from status monitoring alone at present to **status prediction in the future**
- Supporting judgments** by selecting the data required from among a large amount of information and analyzing it

Measurement, inspection and visualization



Inspection of high/narrow places using drones, etc.



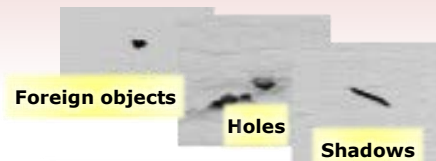
Condition monitoring of rotating machine using wireless vibration sensors



Leak detection using gas detection cameras

Thickness measurement using sensors

Automation

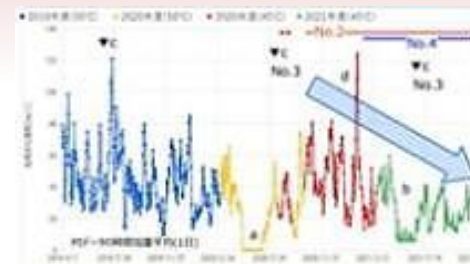


Identification of foreign objects using image-based AI



Detection of black smoke in flares, automated operation

Analysis & prediction



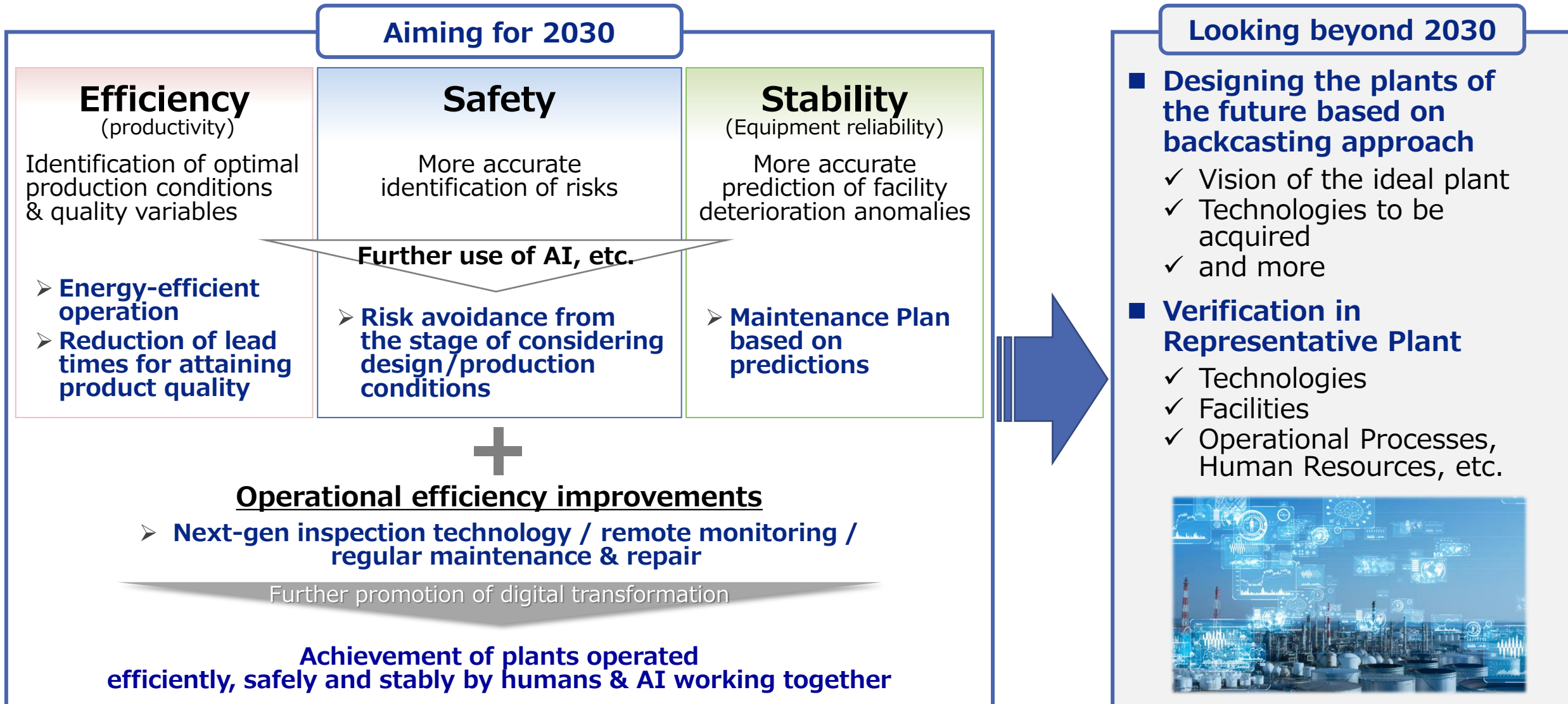
Stabilization of operations using data analysis
Operation & facility anomaly detection using predictive models

Optimization



Optimization of operation using AI and simulators

Looking beyond 2030 as we take on the challenge of creating the plants of the future



MCI DX Vision

By having all members of the Mitsui Chemicals Group utilize data and digital technologies, we aim to create innovative products, services and business models in an agile manner, leading a corporate, industrial and societal transformation with the goal of solving social challenges

Implementing a corporate transformation (CX)

Basic Strategy 2

Pursuing innovation for our operations

Using and acting on real-time data

Basic Strategy 3

Bolstering our development capabilities

Unearthing new customers, products, and markets

Basic Strategy 4

Transforming our business models

Switching business to a social issue perspective

Basic Strategy 1

Improving our digital literacy

Improving the skills of all employees to help us transform into a data-driven organization and culture

Strengthening data and IT infrastructure

Realize standardization, efficiency improvements, and stabilization of chemical logistics by combining DX technology with chemical logistics expertise, in response to the driver shortage and reduction of GHG emissions

VISION 2030

Supports

Pursuing a Group-wide digital transformation strategy

Pursuing S&OP*

Efforts for solutions-based business

Pursuing the use of AI & MI

DX policies for the future

Efforts for personalization

Digital marketing

Strengthening efforts for CN & CE

Efforts for carbon neutrality

Efforts for a circular economy

Accelerating management and business transformation

Speedy efforts for M&A

Bolstering management of financial & non-financial metrics

Bolstering compliance management

Avoiding financial risk

*Sales & Operation Planning

Supports

Strengthening IT & data infrastructure

ERP*/extension platform
Data recording

Integrated data infrastructure
Integration, aggregation & visualization of data

*ERP: Enterprise Resource Planning

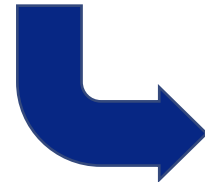
Accelerate joint logistics

危 険 毒

—Chemical tankers •Trucks—

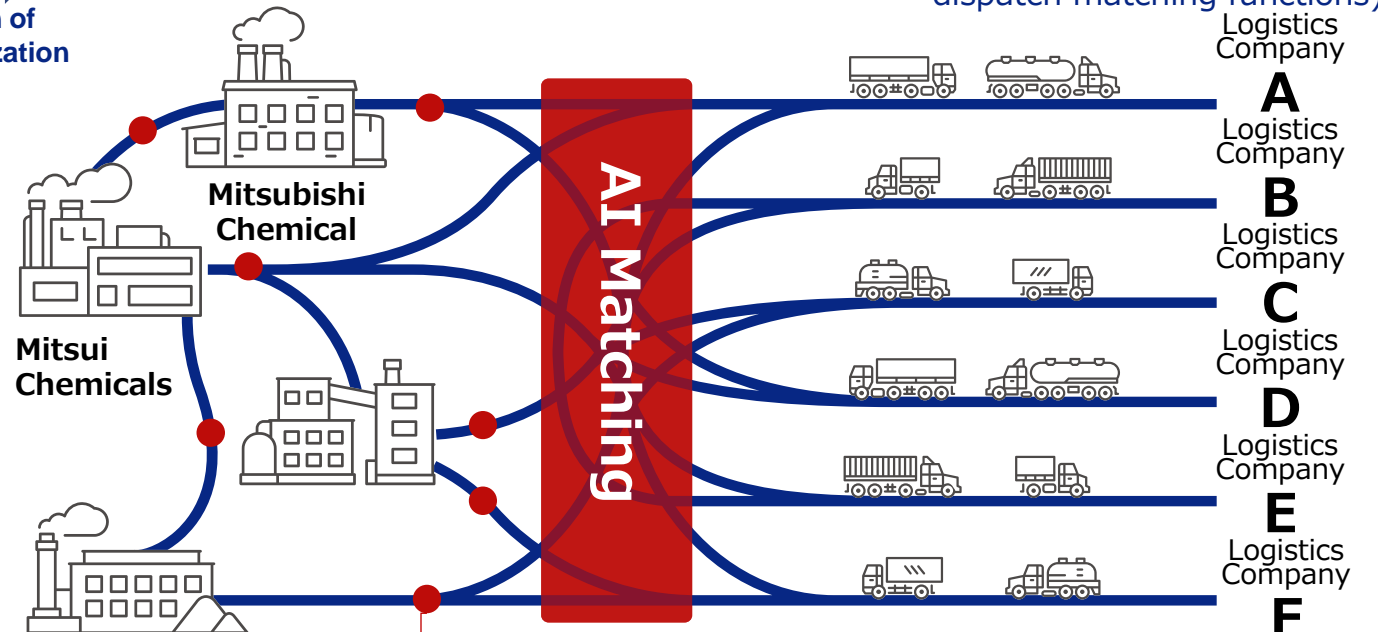


— Packing style, pallets —



Promotion of standardization

Building a platform (AI-based transport & delivery design and truck dispatch matching functions)



Main contractors, 3PL companies, logistics subsidiaries

Responding to demand from the Japanese plastic collection and distribution sector by building a blockchain-based platform

VISION 2030

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Pursuing a Group-wide digital transformation strategy

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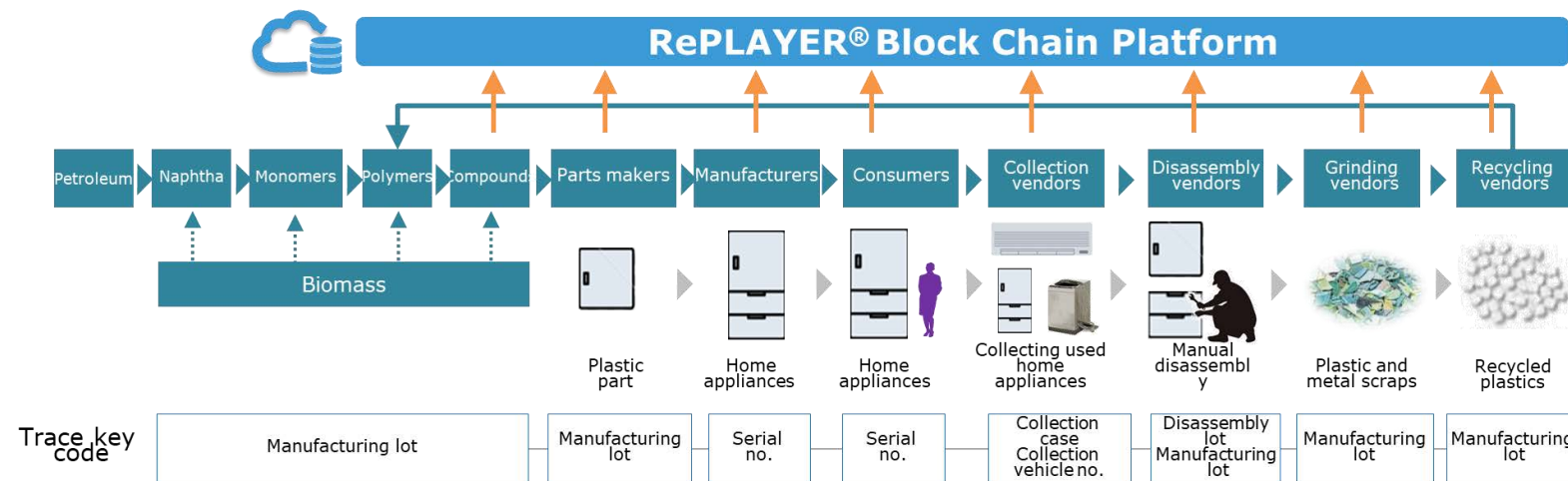
Supports

Strengthening IT & data infrastructure

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Integration, aggregation & visualization of data

*ERP: Enterprise Resource Planning

Promotion of plastic resource recycling



Export of 1.3 million tons/year of recovered plastic to other countries → Demand from the Japanese plastic collection & distribution sector

① Achieving traceability of plastic materials

Information about materials, properties, quality, proportion of recycled material, number of times recycled, etc.

② September 30, 2022: Established the Pla-chain Resource Circulation Consortium

A consortium that discusses the ideal approach to promoting resource recycling and tackling individual issues 51 participating companies, as of June 2024

③ Launch of the Sustainable Plastics Certification (SPC) program (before the end of 2024)

Seeking out new material themes by building a proprietary dictionary using external information (e.g., patents, news)

VISION 2030

Supports

Pursuing a Group-wide digital transformation strategy

Pursuing S&OP*

Efforts for solutions-based business

Pursuing the use of AI & MI

DX policies for the future

Efforts for personalization

Digital marketing

Strengthening efforts for CN & CE

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*ERP: Enterprise Resource Planning

Generative AI analysis

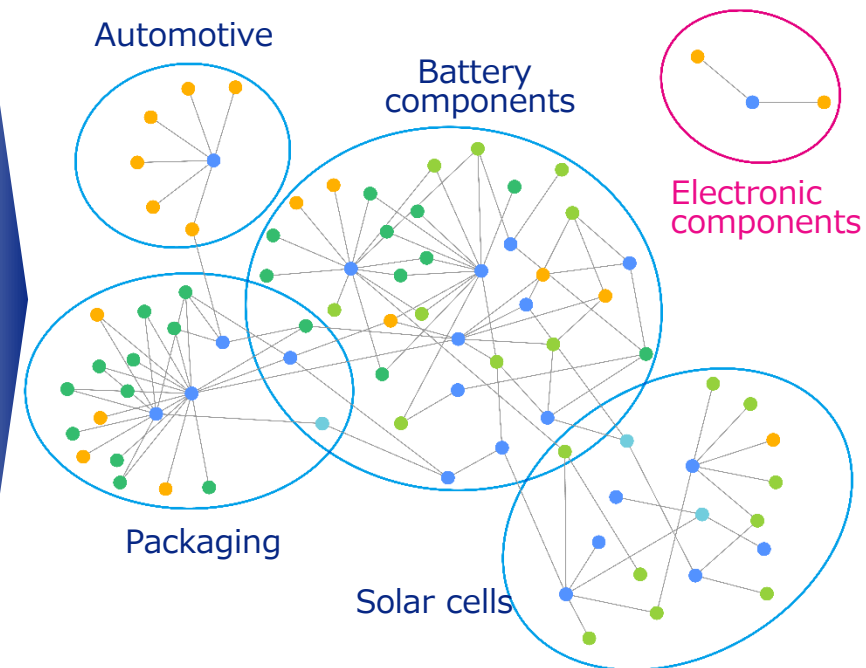
Large volumes of external information
Patents, papers, news, social media, etc.



Materials information
Functional properties, compound names, etc.

Draw knowledge graph
using Natural-language processing

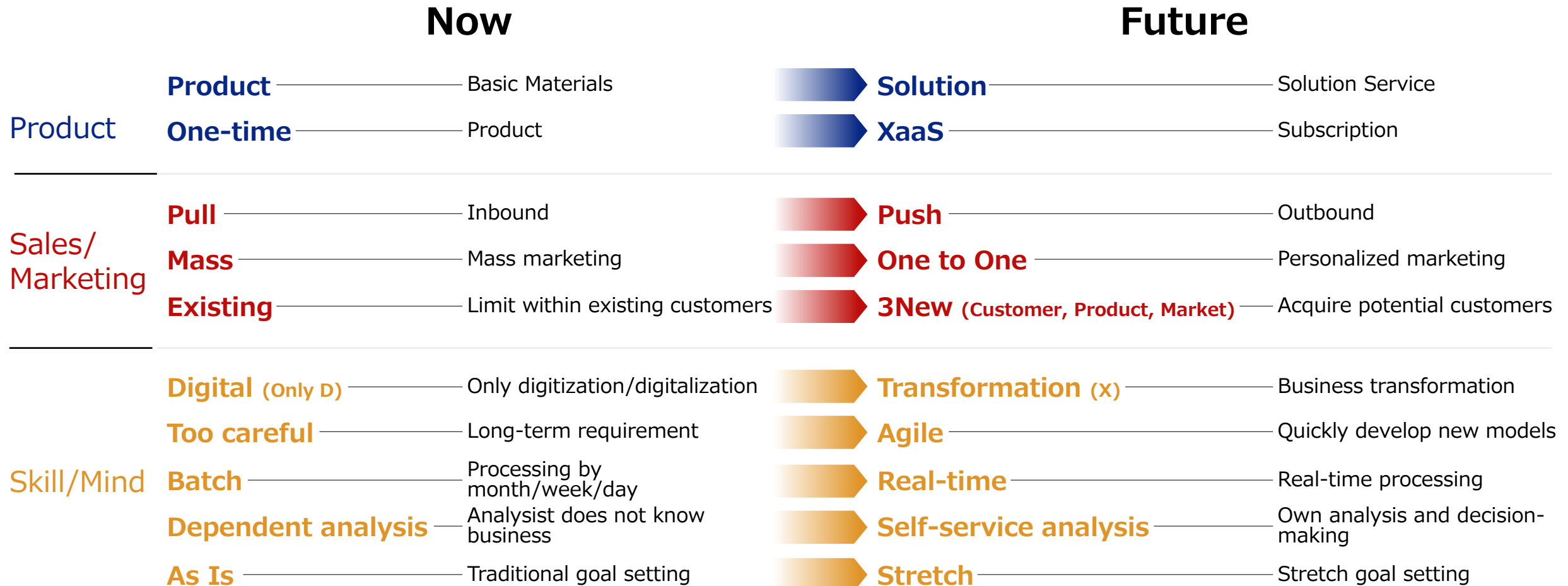
Examples



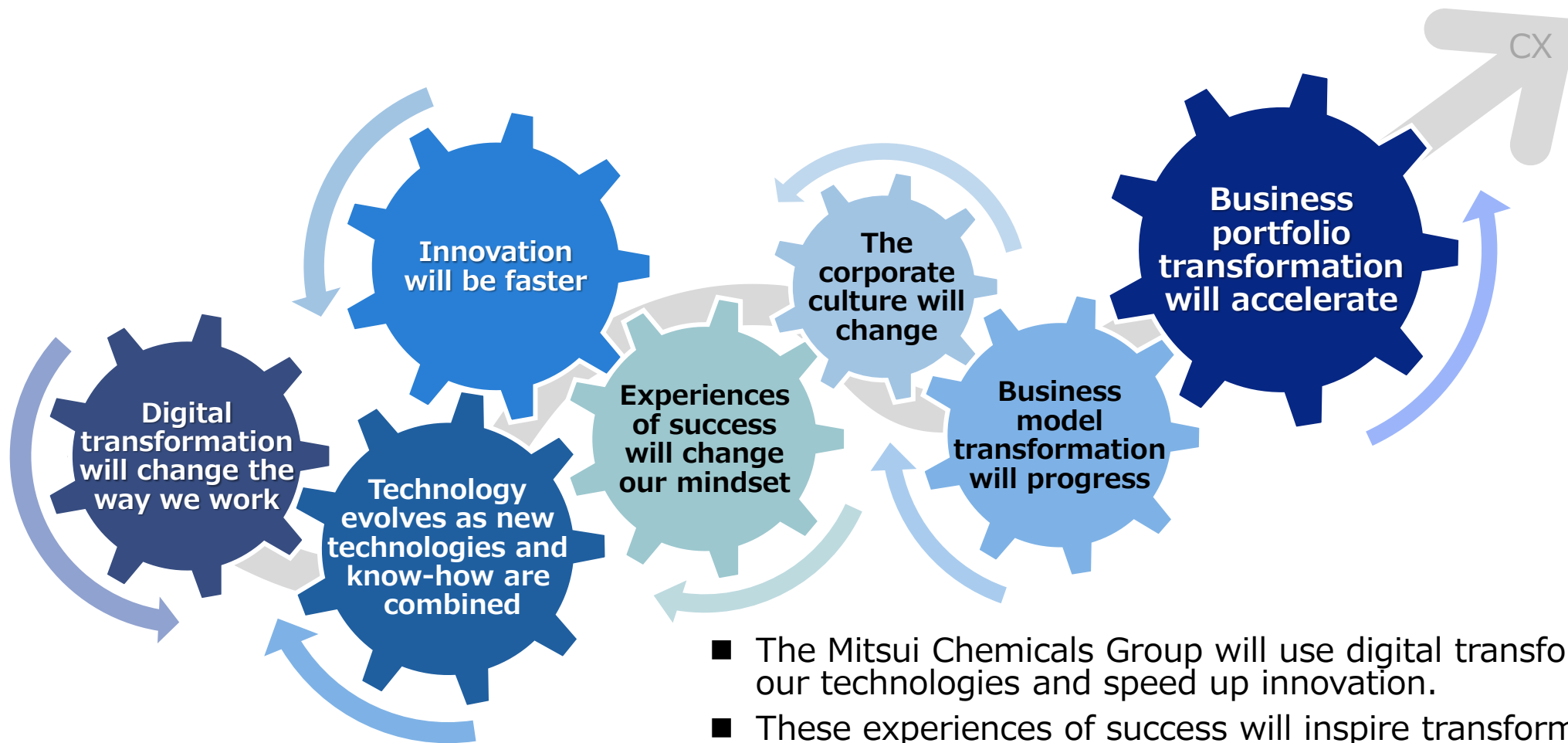
Our use cases

- ① New applications in electronic components for material A, used in food product packaging applications
- ② New applications in semiconductors for material B, used in construction material applications
- ③ New applications in mobility for material C, used in daily use applications

Achieving corporate transformation by adding elements of the future to what we have now as we pursue VISION 2030



Pursuing corporate transformation (CX) by accelerating business portfolio transformation through digital transformation, and **contributing broadly to society by creating new value**



- The Mitsui Chemicals Group will use digital transformation to evolve our technologies and speed up innovation.
- These experiences of success will inspire transformations in our corporate culture and business models, which will in turn help to accelerate business portfolio transformation.
- This series of processes will further the pursuit of our CX.



Mitsui Chemicals
Group

3. Outside Director's Perspective

MIMURA Takayoshi

三村 孝仁

Member of the Board
Mitsui Chemicals, Inc.

July 9, 2024

- ▶ **1. Self-Introduction**
- ▶ **2. Evaluating the Board's Effectiveness**
- ▶ **3. Hopes for Mitsui Chemicals**

Outside Director

MIMURA Takayoshi

- Apr. 1977** Joined Terumo Corporation
- Jun. 2002** Executive Officer of Terumo Corporation
- Jun. 2003** Director and Executive Officer of Terumo Corporation
- Jun. 2007** Director and Managing Executive Officer of Terumo Corporation
- Jun. 2010** Director and Senior Managing Executive Officer of Terumo Corporation
- Apr. 2017** Chairman of the Board of Terumo Corporation
- Jun. 2021** Chairman of The Japan Federation of Medical Devices Associations
- Apr. 2022** Director and Corporate Advisor of Terumo Corporation
- Jun. 2022** Corporate Advisor of Terumo Corporation,
Outside Director of AUTOBACS SEVEN CO., LTD. (to present)
Member of the Board of the Company (to present)
- Jun. 2023** Outside Director of Niterra Co., Ltd. (to present)



- Role**
- I objectively evaluate overall management based on my experience as a corporate manager & head of an industry organization, and my in-depth insight in the health care field, which Mitsui Chemicals is focusing on.
 - In board meetings, I provide opinions from the perspective of the suitability of business strategy and enhancement of management, thereby improving the effectiveness of management supervision.
 - As a member of the Nomination Committee & Executive Compensation Committee, I ensure the transparency and suitability of the nomination & compensation system for management.

- Board of directors and related Committee management/discussions : **Accelerating shift to an investor/shareholder perspective, including fundamental changes to the compensation system**
- Board of directors Support System, Discussions by outside directors : **Shift in emphasis from box-ticking to effectiveness, and expectation of more active dialogue between auditors and board members**

Evaluation process

1. Third-party organization sends questionnaire to board members & auditors

2. **Achievements & issues identified based on results of evaluation & analysis**

3. Outside directors alone discuss findings, then discuss them with board members

4. Report to board of directors, share future challenges/measures

Evaluation results

Evaluation items	Compared to other companies*	Questions
Operation	+	Free, vigorous and constructive discussion and exchange of opinions, rather than formal discussion and exchange of opinions
Operation of committees	+	Deliberations for developing the selection criteria for CEO (including succession plans for CEO and clarification of the dismissal process)
	+	Effectiveness of each voluntary committee
	+	Adequate discussions to set an appropriate share for performance-linked compensation component
	+	Free, vigorous and constructive discussion and exchange of opinions, rather than formal discussion and exchange of opinions
Discussion	+	Proactive involvement in the development and operation of succession plans for CEO and others
	+	Supervision of allocation of management resources to human capital, etc. & implementation of business portfolio-related strategies
	+	Design of the compensation system for management & decisions on specific compensation amounts
Support System	+	Opportunities for training required of executives
	-	Staffing setup to support the activities of board members & auditors
Own efforts	-	Reflection of own opinions in decision-making and judgments
	-	Exchange of opinions among outside directors in settings other than board meetings

3. Hopes for Mitsui Chemicals

➤ **VISION 2030**

- Praise for the setting of clear quantitative targets that include non-financial targets, and for the points covered by KPIs.
- Vital to ensure widespread understanding of the company's intentions internally and externally, and also to demonstrate progress.
- The company must build these intentions into the management planning system, incorporating them into everything from budgets to KPIs for individuals, and then ensure they are implemented without fail.

➤ **M&A**

- The purpose is either to acquire technologies the company does not have, speed up development, or capture a new market.
- Vital to further enhance the accuracy of due diligence, while pursuing the company's vision for the future.
- To ensure even better outcomes from M&A, the company should bolster monitoring both before and after deals, and attach importance to objective viewpoints.

➤ **ESG initiatives**

- Aware that these initiatives are the most important tasks for ensuring the company's social contribution and sustainability.
- The company should attach importance to the time frame for progress, because it faces more challenges than ever before and a growing need to address them in specific terms.

A global solutions company that
leads change and contributes to a sustainable future

0→1 MAKE IT HAPPEN

Chemistry for Sustainable World



Mitsui Chemicals

Challenge Diversity One Team

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