

Investors' Meeting for the **DX** Strategy

March 12, 2024



SUMITOMO CHEMICAL

Strengthening business competitiveness and creating new value

DX Strategy Presentation

Contents

01 — Sumitomo Chemical's DX Strategy

02 — Foundation DX promotion = Strengthen the Management Base

03 — Leveraging DX to Strengthen Competitiveness


04 — Leveraging DX to Create New Value

05 — Accelerating into a new specialty chemical company

Leverage DX to accelerate reform and growth at Sumitomo Chemical

DX

Sumitomo Chemical's reform and Growth

Our strength **Diversity** × Unique **GX** 

Strengthen business competitiveness 

Create new value 

Strengthen management base 

Three DX Strategies

Create 3 competitive strategies including value creation through new business models

DX 1.0 strategy

(FY19~)

Improve productivity in
4 digital domains ※

Free up energy and cut
operational costs with more
efficient processes

Upgrade and create
efficiencies in functions and
business processes. Spread
best practices across the
organization.

DX 2.0 strategy

(FY21~)

Strengthen business
competitiveness

Create added value and grow
share and revenue with
stronger customer contacts
and enhanced customer
satisfaction

Speeding up the engineering
chain and Supply chain
optimization

DX 3.0 strategy

(FY22~)

Value creation through
new business models

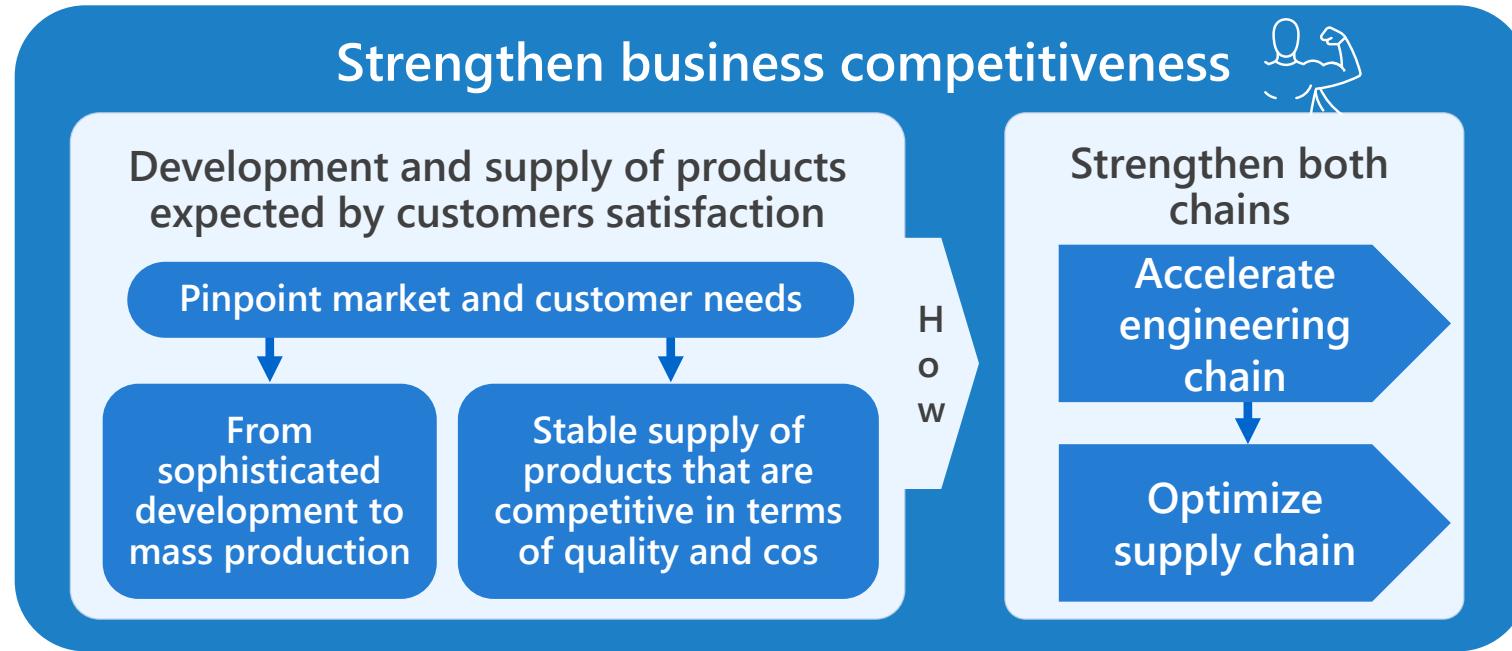
Generate new value
leveraging core technologies,
services and data

Enhance corporate value as
a DX leader

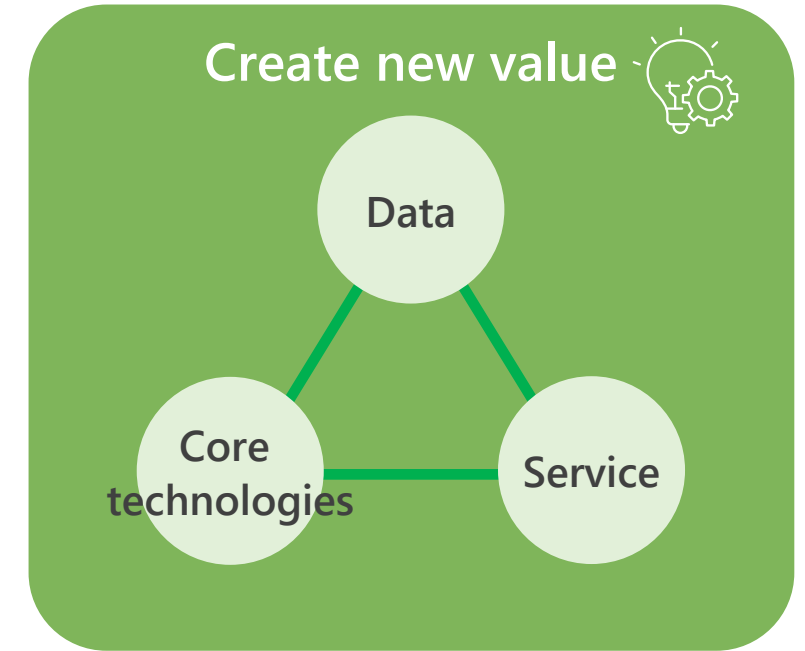
※ : Plant, R&D, SCM, Office

Specific structure of DX strategy

DX 1.0 & 2.0 strategies



DX 3.0 strategy



Strengthen management base



Secure digital talent and build out an organization to drive DX

Build a digital infrastructure

Cultivate a reform-oriented mindset

DX Strategy Presentation

Contents

01 — Sumitomo Chemical's DX Strategy

02 — Foundation DX promotion = Strengthen the Management Base

03 — Leveraging DX to Strengthen Competitiveness

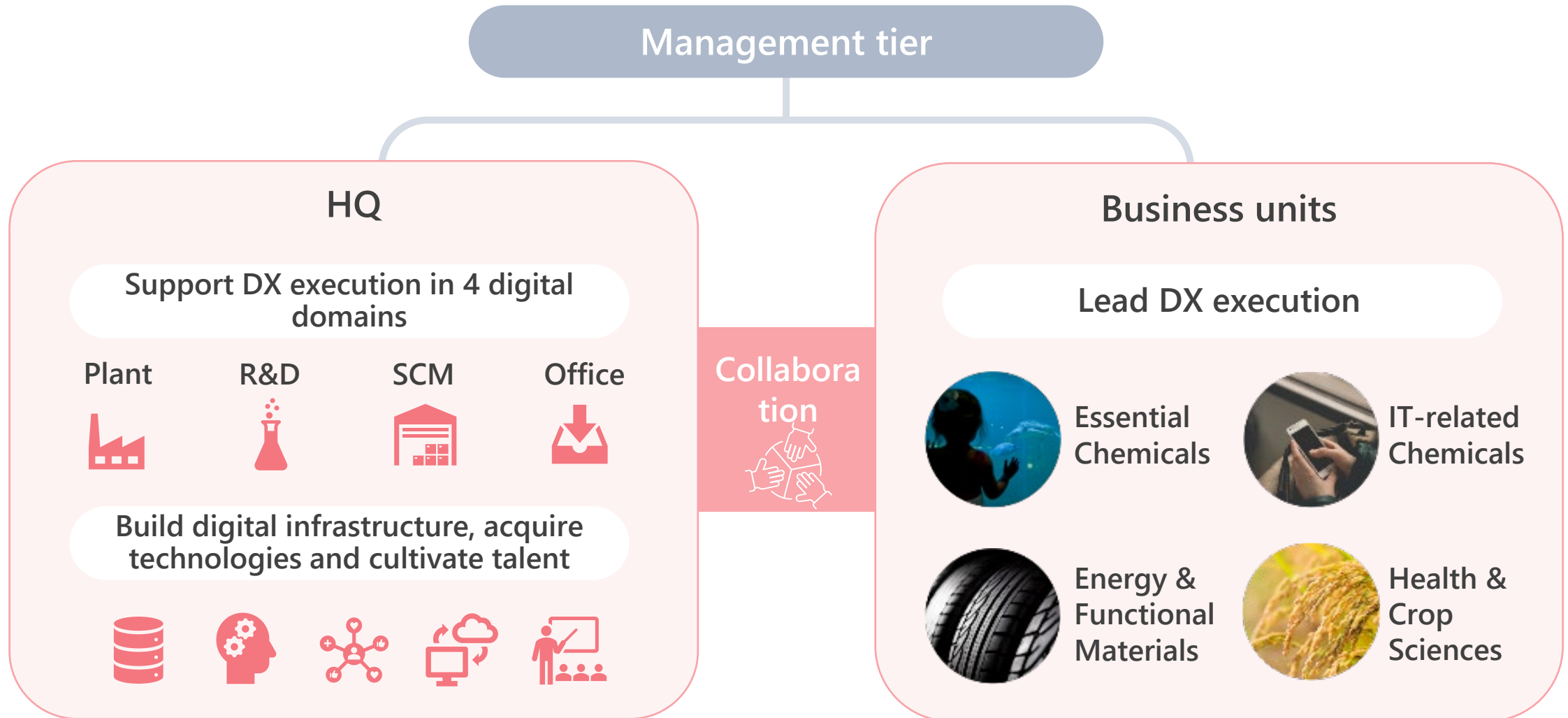
04 — Leveraging DX to Create New Value

05 — Accelerating into a new specialty chemical company

Company-wide structure of DX initiatives

Strengthen management base
Secure digital talent and build out an organization to drive DX

Business units and HQ work together to engage in company-wide initiatives.



Strengthen organization for pursuing DX (HQ)

Implemented three strengthening measures to accelerate DX initiatives

Aim	Strengthening measures	Role of the organization
Promote use of data companywide	Dedicated data science organization Newly created the Digital and Data Science Innovation Dept. (2019/4)	<ul style="list-style-type: none">• Material development, process optimization, supply/demand and inventory optimization leveraging AI and data• Build out database and analysis tools• Cultivate appropriate talent
Accelerate the acquisition and internal deployment of advanced DX	A joint venture with Accenture Established SUMIKA DX ACCENT (2021/4)	<ul style="list-style-type: none">• Leverage Accenture's know-how• Validate the concepts and internal deployment of the newest digital technologies• Cultivate digital talent
Accelerate the implementation of DX where IT is integrated into the business	Consolidate IT subsidiaries Bolster IT Innovation Dept. (2021/7)	<ul style="list-style-type: none">• Develop, introduce, operate and maintain systems related to DX

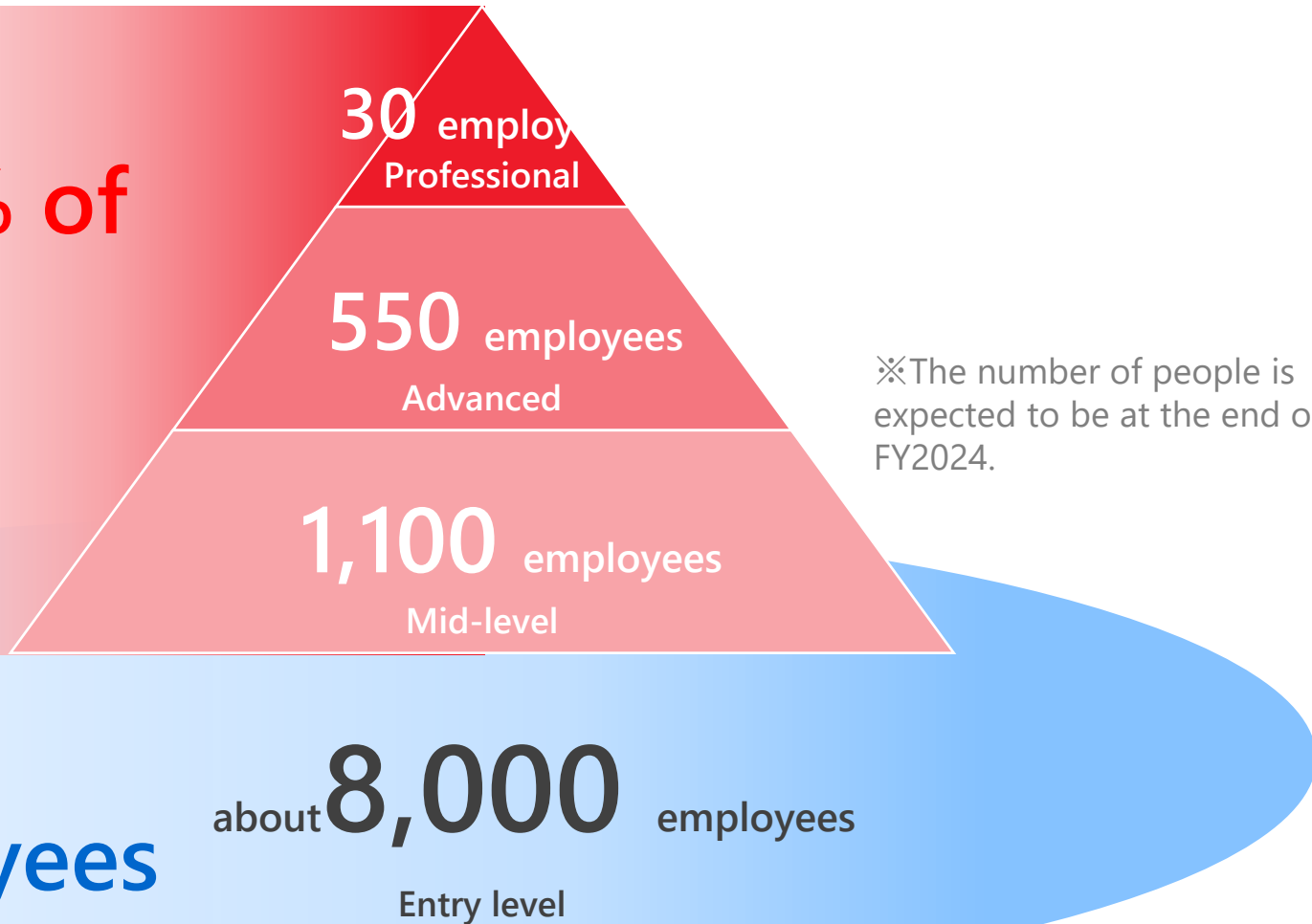
Strengthening Digital Talent as the Foundation of DX promotion SUMITOMO CHEMICAL

Strengthen digital talent with two-pronged approach of raising DX literacy among all employees and cultivating core DX talent

Strengthen management base
Secure digital talent and build out an organization to drive DX

Cultivate **about 20% of all employees** into core DX talent

Raise DX literacy **among all employees**



※The number of people is expected to be at the end of FY2024.

An image of core DX talent

Combine DX skills with business knowledge in each domain to achieve business process transformation

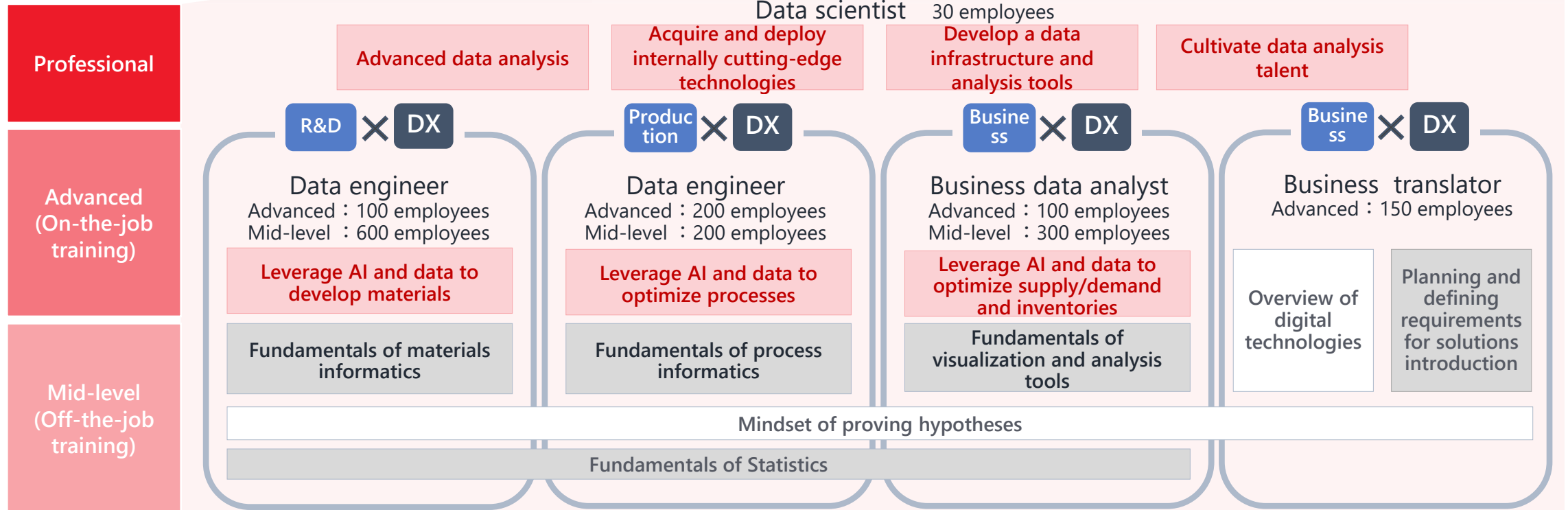
Strengthen management base
Secure digital talent and build out an organization to drive DX

Business process transformation → Define and cultivate digital talent in each business domain

Business Knowledge × DX

- Majority of educational programs are developed for internal purposes

Practice
Skills
Knowledge



Digital and Data Science Innovation Dept. leadership



Shogo Kaneko

Chemical Engineering, Ph.D.

Joined Sumitomo Chemical in 2003.
Worked as a process engineer, gaining experience in research and production technology. In 2016, began promoting DX in the plant.
In 2019, became Digital and Data Science Innovation Dept. General Manager and led companywide DX projects.



Shinya Nishino

Physical Engineering, Ph.D.

Joined Sumitomo Chemical in 2016 after gaining experience in academia and IT companies and garnering recognition as an Excellent Young Researcher by Japan's Ministry of Education, Culture, Sports, Science and Technology.
Today in our Digital and Data Science Innovation Dept., leads companywide deployment of digital R&D and Materials Informatics (MI).
In 2023, also began leading our Value-nauts® team dedicated to deploying DX 3.0 strategy.

Value creation through data capitalization

Build a foundation to transform the data accumulated into business value as an asset

A state where the data can be used as an asset

Value from data

Accumulate in an appropriate form



Share appropriately



Find right away



Use immediately



Ascertain data in real time



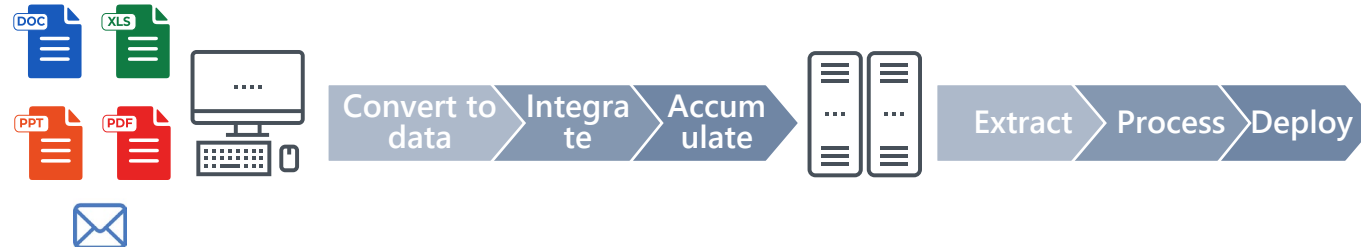
Insights and Decision-making gained from the data



Enhance customer satisfaction
Create new products
Acquire new customers



Build a platform for leveraging data

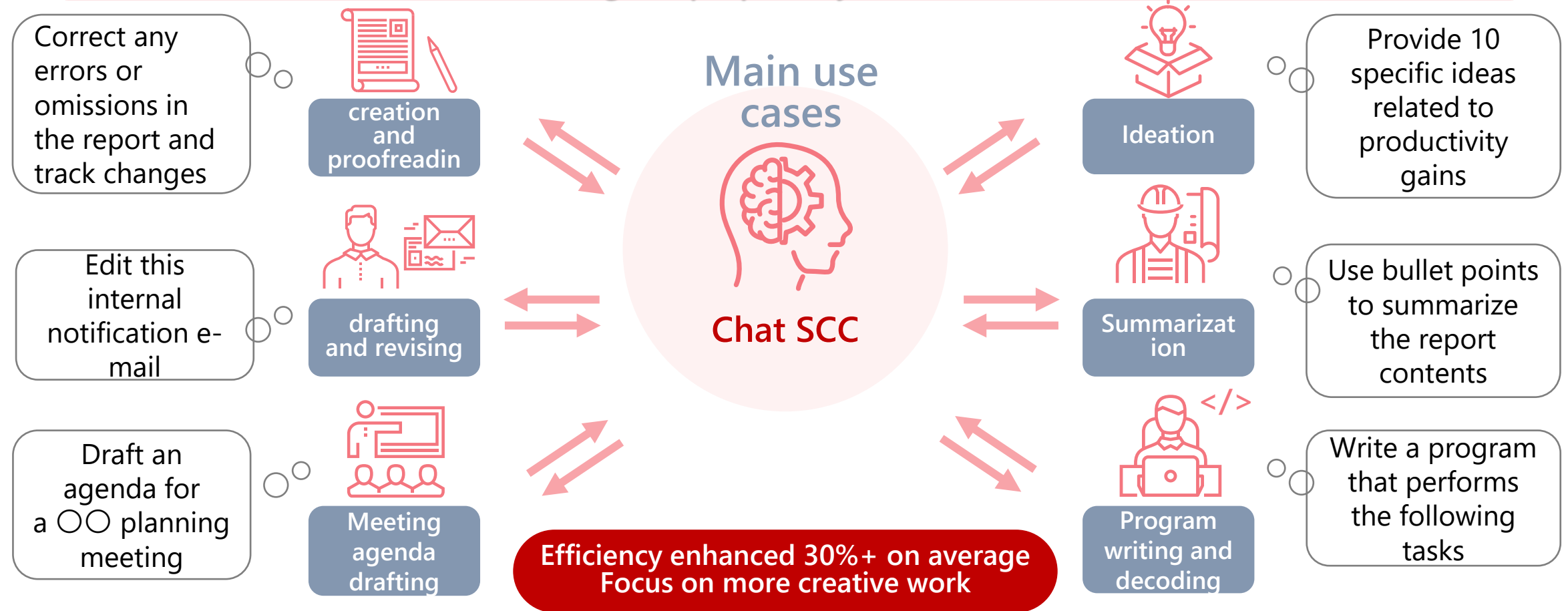


Leverage generative AI

Build an environment where all employees can leverage generative AI and achieve dramatic productivity gains

Strengthen management base
Build a digital infrastructure

Introduced ChatSCC (Sumitomo Chemical's version of ChatGPT) in September 2023
A secure environment where information input will not be leaked externally makes it possible to integrate proprietary information

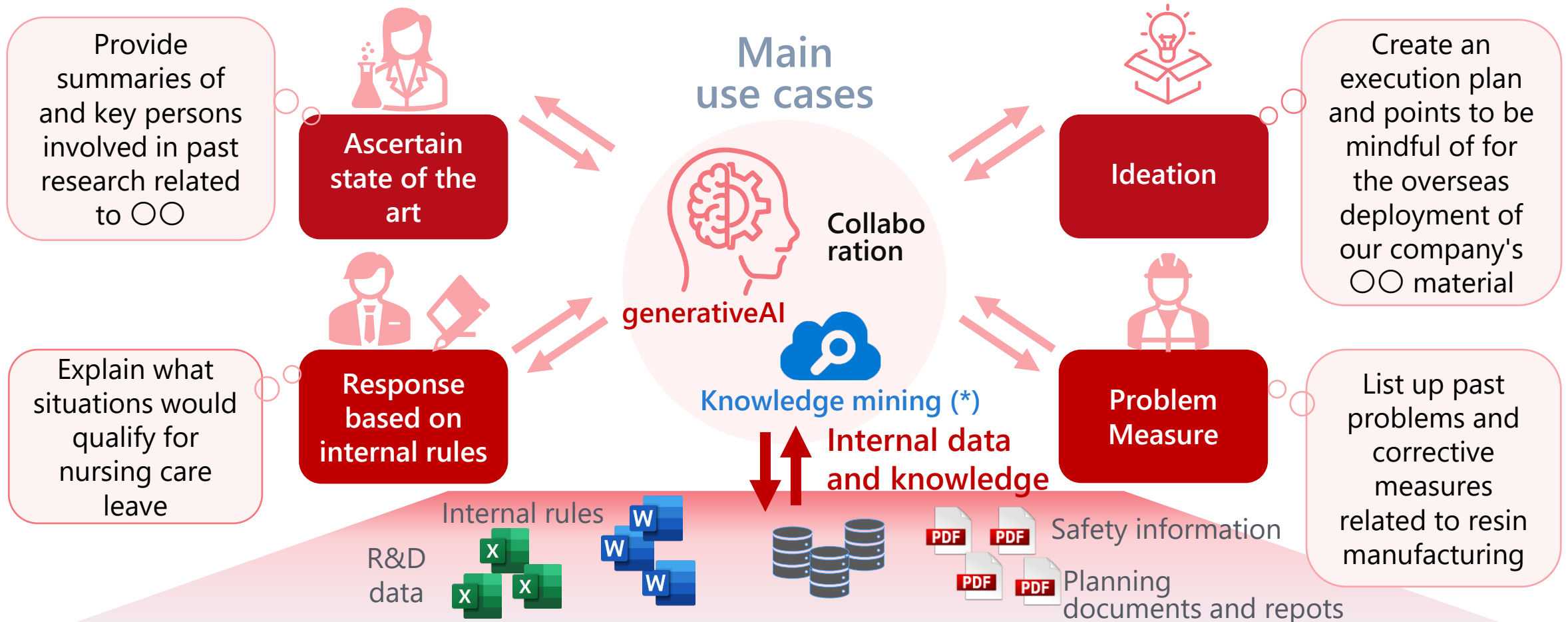


Further utilization of generative AI

Strengthen management base
Build a digital infrastructure

Leverage massive volumes of internal data and knowledge, fuse with generative AI, and assist and accelerate specialized work processes






Introducing a Sumitomo Chemical version of knowledge mining



(*) Knowledge mining: The process of discovering and extracting valuable information and knowledge from vast volumes of data

Security initiatives

Implement global and multifaceted security measures as a foundation for promoting digital transformation (DX).

Measure Category	Measure Description
<p>Organizational</p> 	<ul style="list-style-type: none">• Build an information system security/control system security response framework.• Establish a CSIRT (Computer Security Incident Response Team) to consolidate and respond to incidents globally
<p>Systematic</p> 	<ul style="list-style-type: none">• Create standards and standardization documentation related to security encompassing group companies• Implement risk assessment, regular security self-checks and security internal audits encompassing group companies
<p>Personnel</p> 	<ul style="list-style-type: none">• Implement regular practice and training to prepare for security incidents.• As a preparation for human vulnerabilities, conduct targeted email training, awareness raising, and regular security education• Cultivate advanced security professionals and participate in public-private training exercises.
<p>Technological</p> 	<ul style="list-style-type: none">• Implement measures to protect internal/external boundaries and strengthen authentication and access controls (Promote zero trust within IT systems)• Strengthen response capabilities through network measures, endpoint measures, and the early detection and analysis of security incidents.
<p>Physical</p> 	<ul style="list-style-type: none">• Leverage cloud services with comprehensive measures including log-in/out controls

※ Our company, as an operator of critical infrastructure designated by the government (including sectors such as electricity, gas, water, and chemicals among the 14 categories), perceives cybersecurity as a management issue.

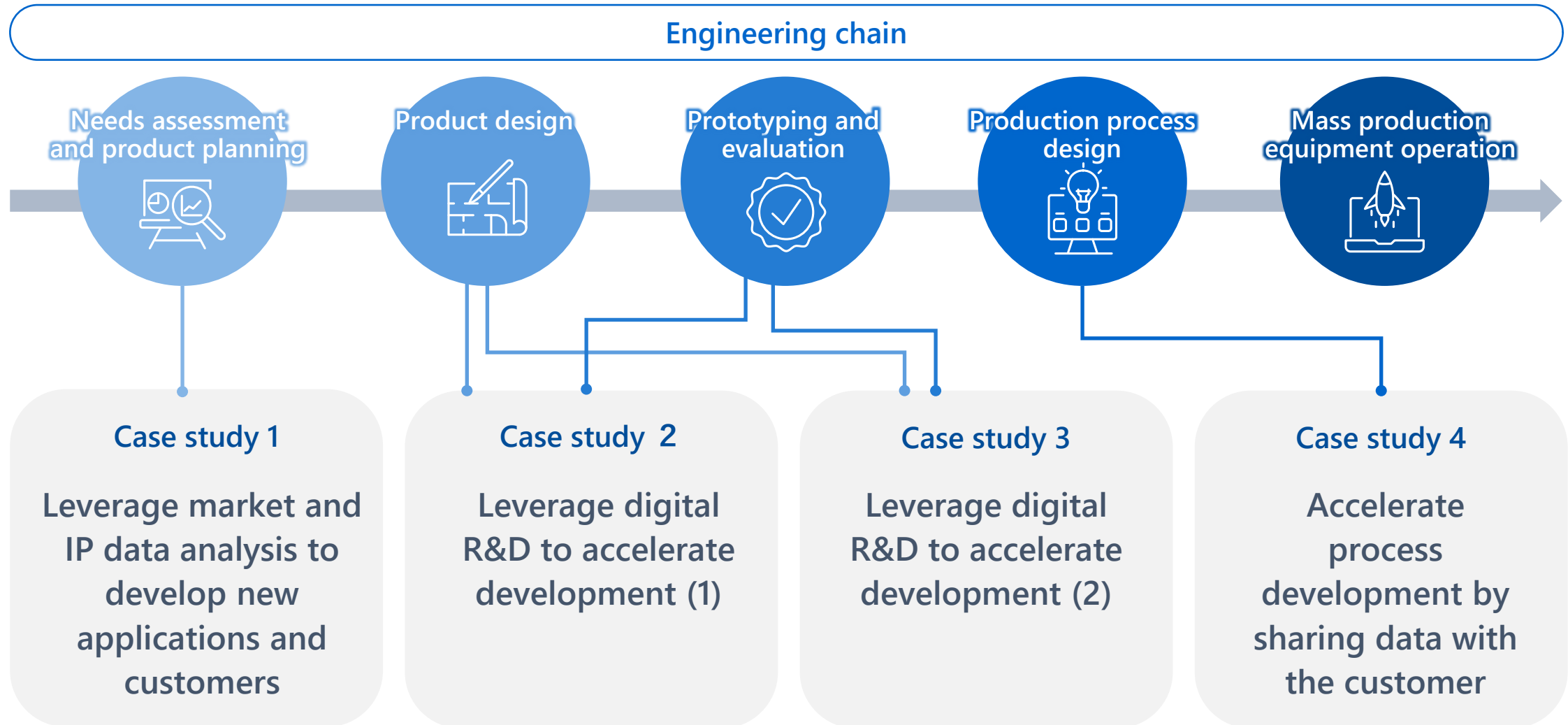
DX Strategy Presentation

Contents

- 01 — Sumitomo Chemical's DX Strategy
- 02 — Foundation DX promotion = Strengthen the Management Base
- 03 — Leveraging DX to Strengthen Competitiveness**
- 04 — Leveraging DX to Create New Value
- 05 — Accelerating into a new specialty chemical company

Leverage DX to accelerate engineering chain

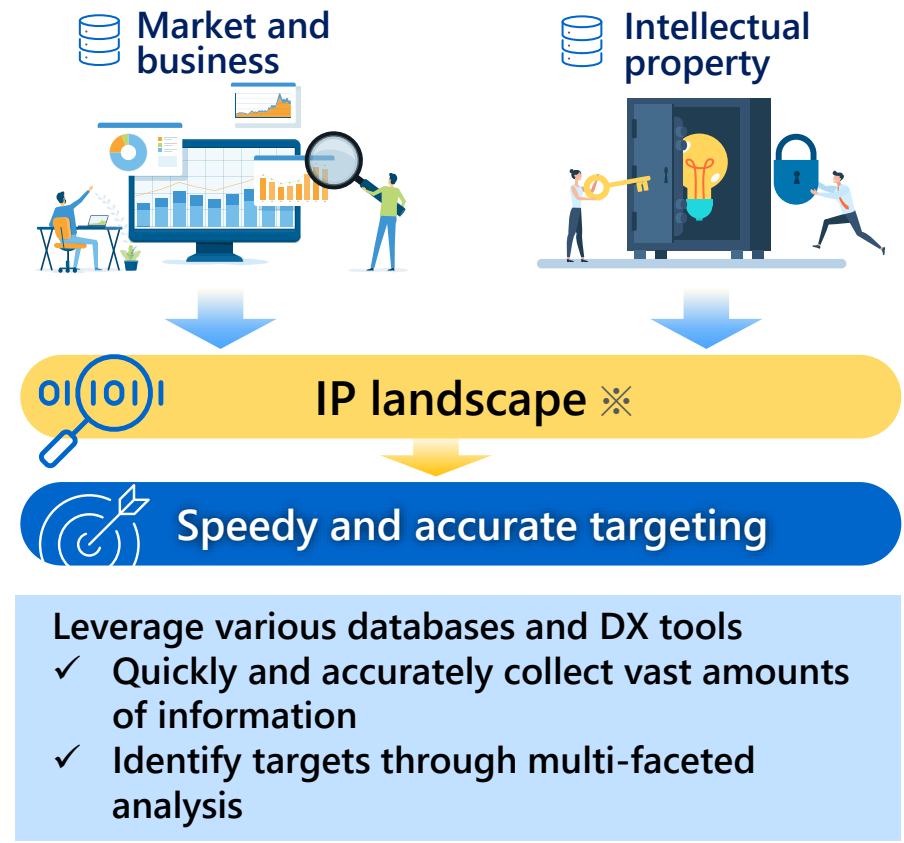
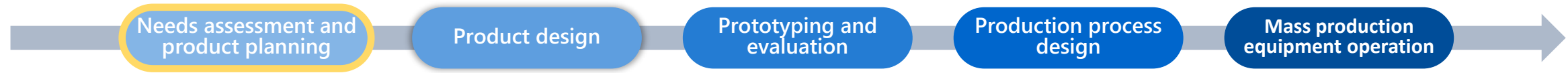
Pinpoint market and customer needs to accelerate the process from product planning to mass production.



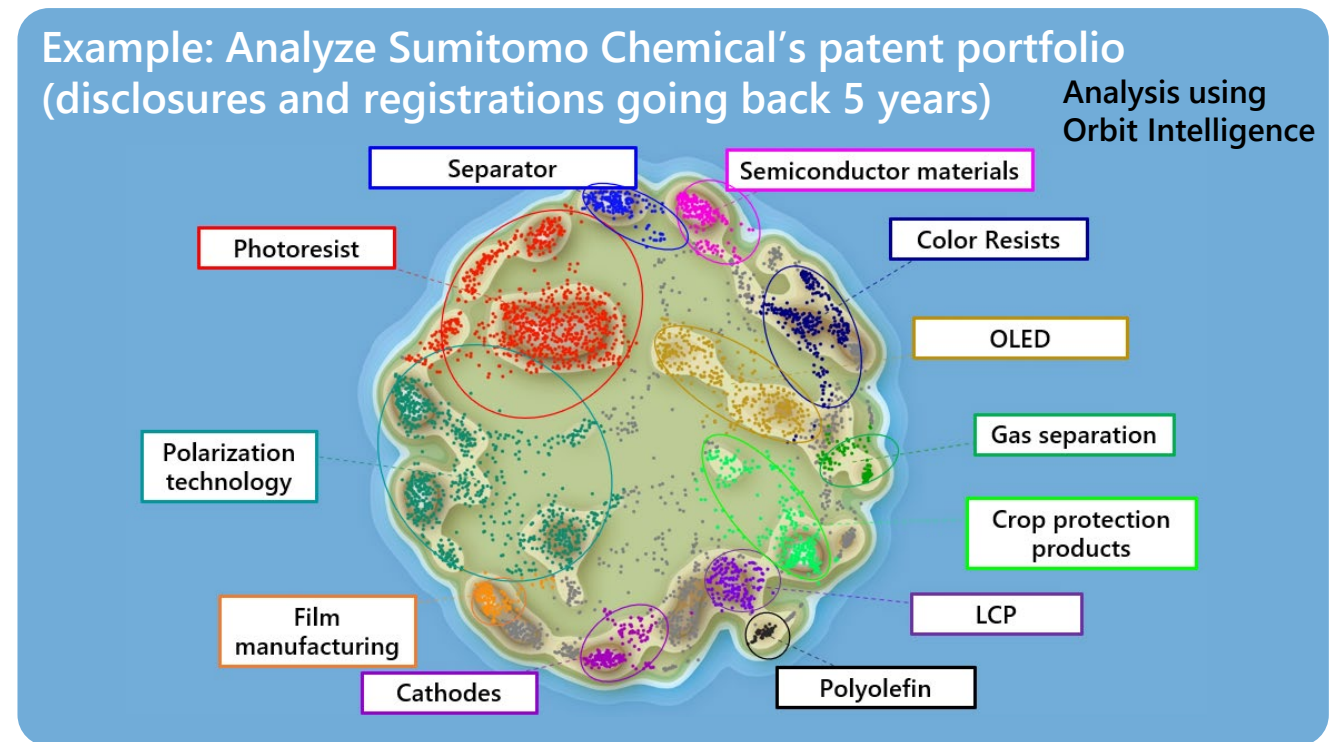
Case study 1: Leverage market and IP data analysis to develop new applications and customers



Integrated analysis of market and IP information to realize speedy and accurate targeting



Compare the patent portfolio analysis of our company with that of competitors to consider business strategies.



※ The activity of integrating and analyzing both our own and other companies' intellectual property with market data, and visualizing the results to inform management and business strategies.

Case study 2: Leverage digital R&D to accelerate development (1)

Develop advanced materials through cutting-edge AI simulations and automation of experiments.

Needs assessment and product planning

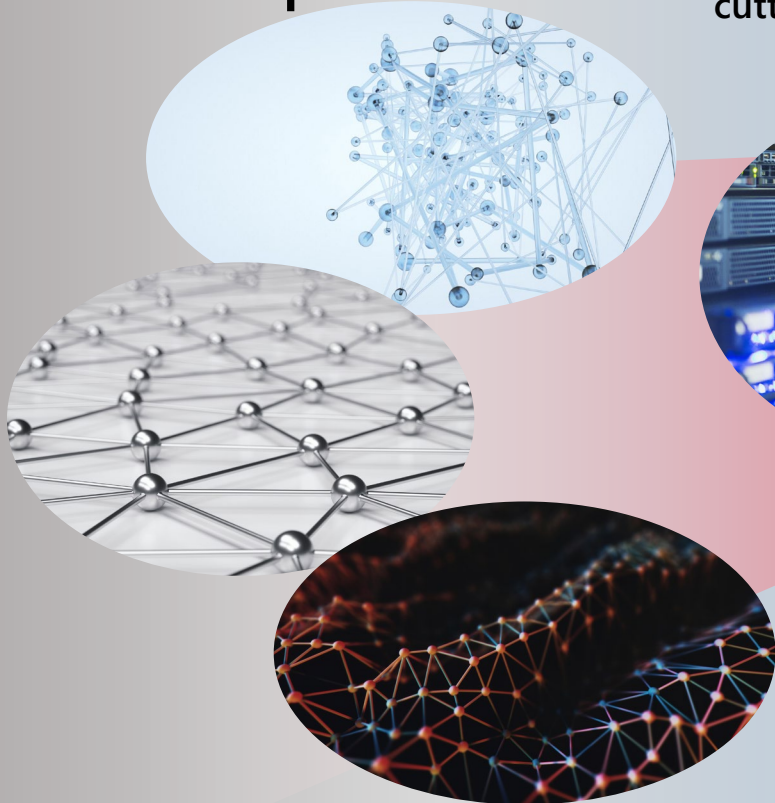
Product design

Prototyping and evaluation

Production process design

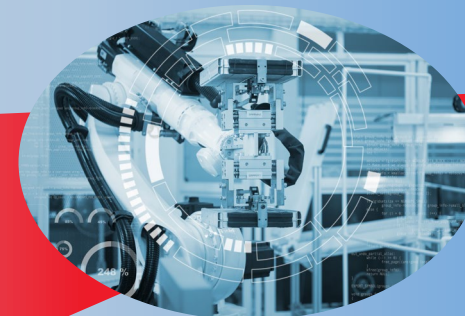
Mass production equipment operation

Massive candidate compositions



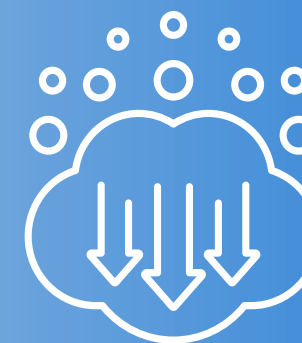
1 Screening of candidate materials leveraging cutting-edge AI simulation.

2 The automation of experiments for rapid prototyping and evaluation of candidate materials.



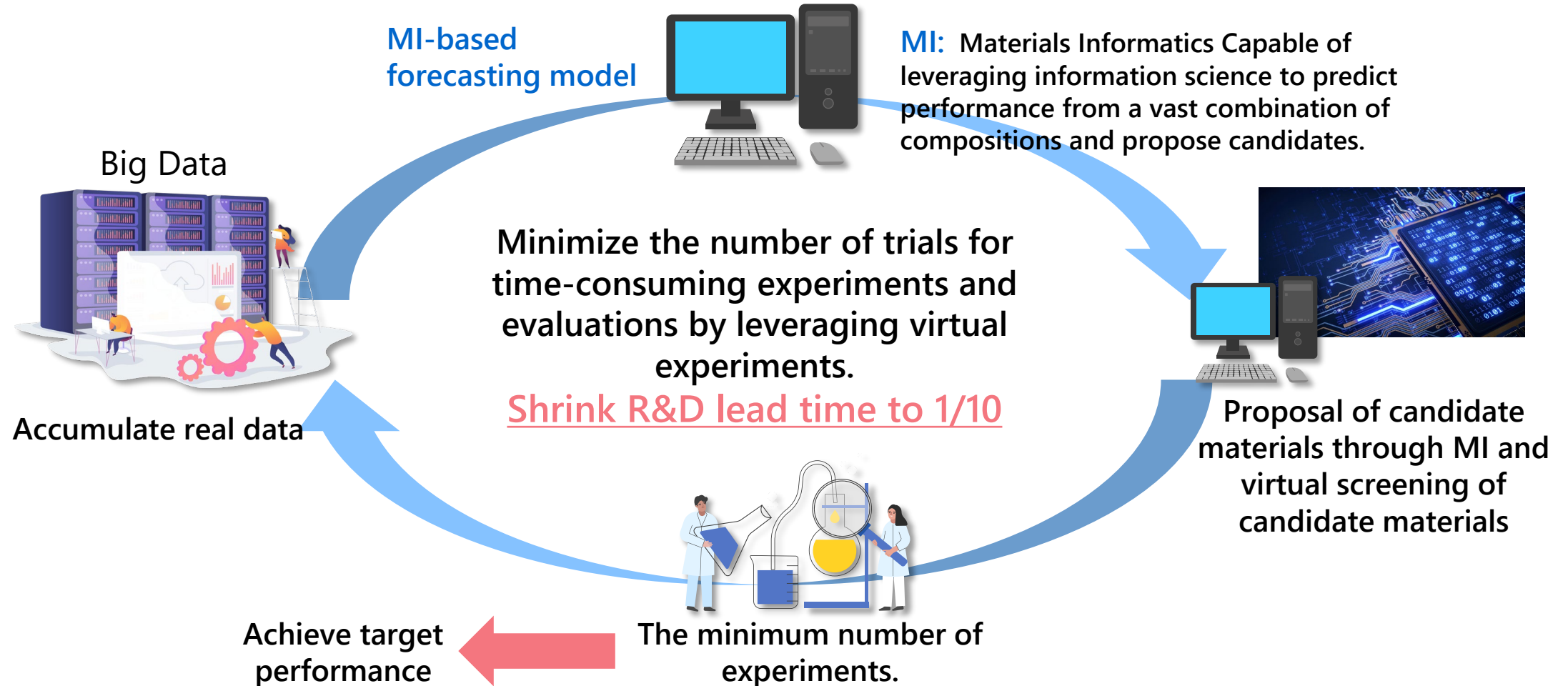
Example:
Neural Network Potential (a cutting-edge AI simulation technology) can analyze transition state at **10,000 times the speed** of conventional methods

Develop chemical recycling technology (novel catalysts) that contributes to the realization of carbon neutrality.



Case study 3: Leverage digital R&D to accelerate development (2)

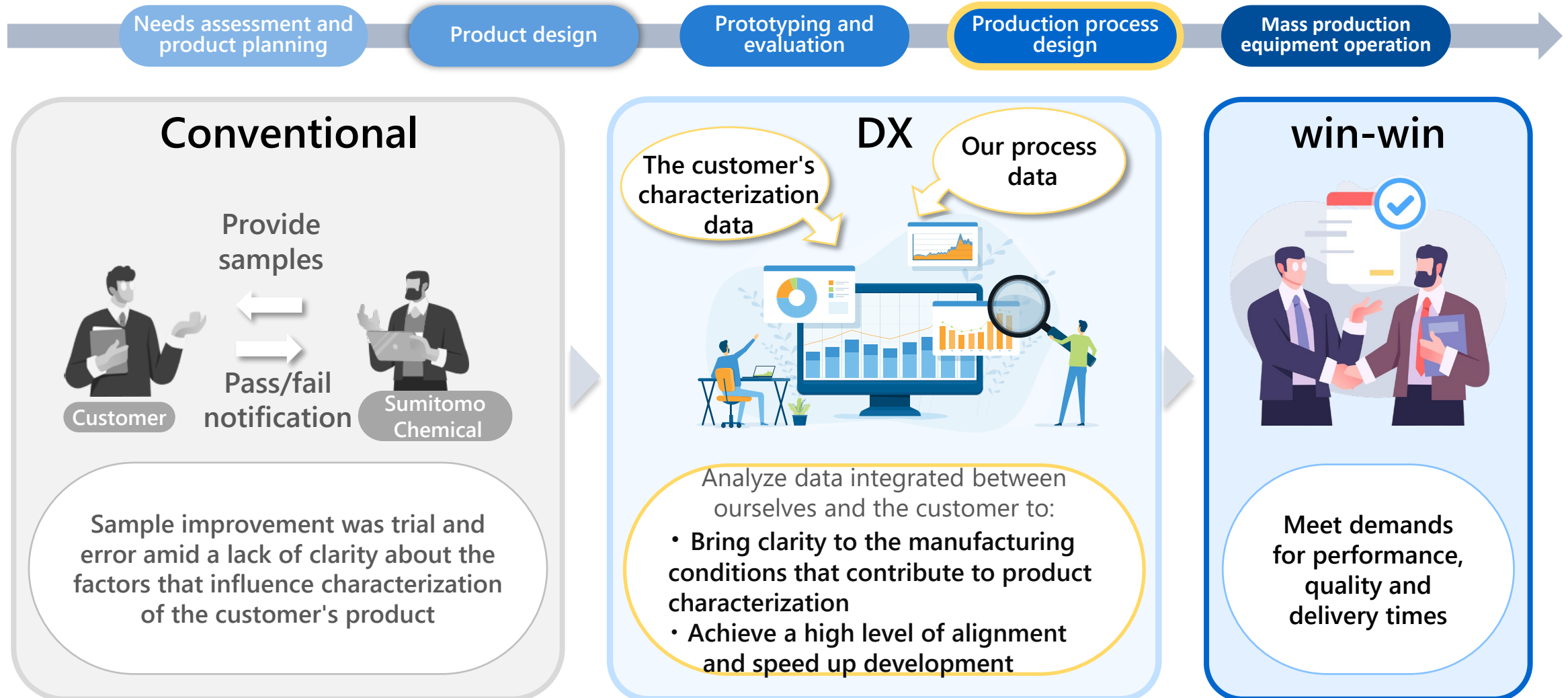
Leverage virtual experiments in semiconductor materials development to achieve performance targets quickly



Case study 4: Accelerate process development by sharing data with the customer



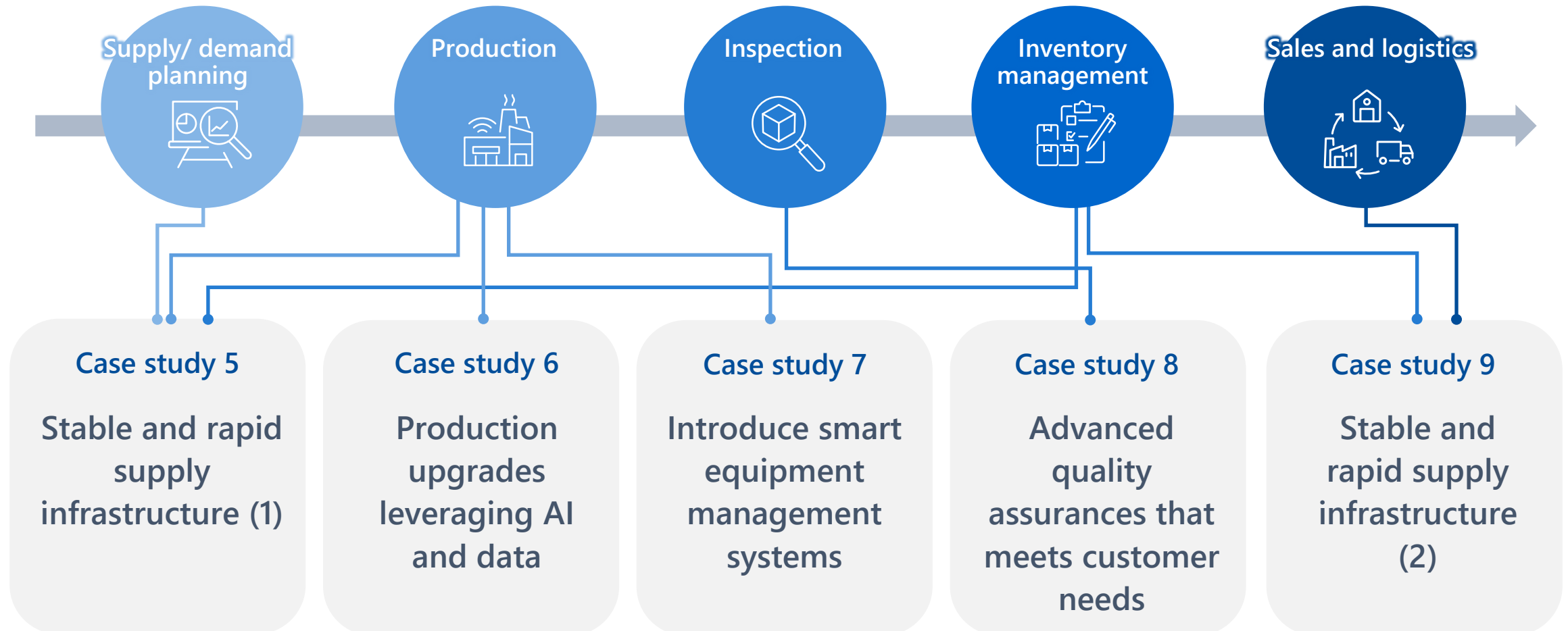
Achieve a high level of alignment by working together with the customer and integrating and analyzing data from both companies



Leverage DX to optimize the supply chain

Build a supply chain that realizes stable supply and cost reductions and meets customer needs

Supply chain



Case study 5: Stable and rapid supply infrastructure (1)

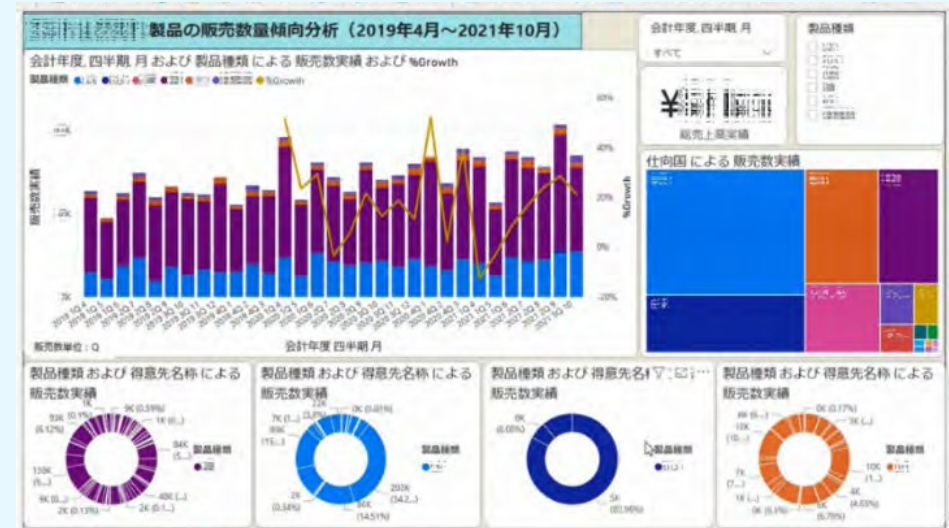
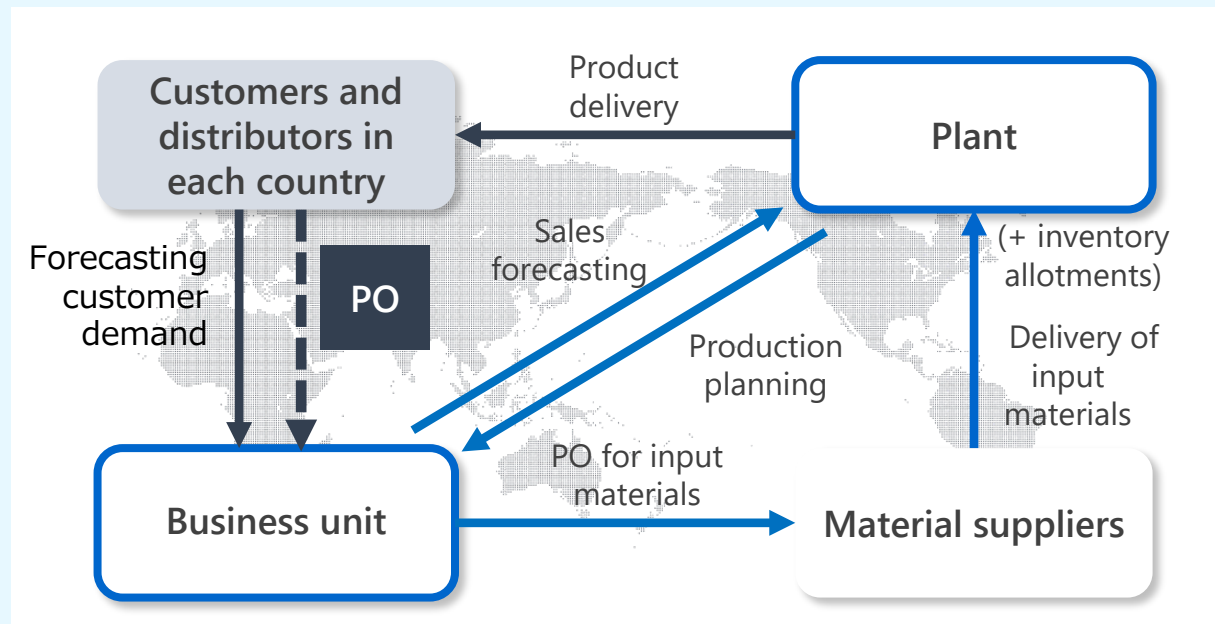
Achieve advanced production, sales, and inventory operations that reduce lead time and can respond timely to demand fluctuations.



DX in the global supply chain for materials for IT-related Chemicals

Fluctuations in customer demand

Collect and visualize data in real-time to reflect the constantly changing demand in production planning.



- Achieve lead time reduction and stable supply through the optimization of production, sales, and inventory.

Case study 6 : Production process upgrades leveraging AI and data

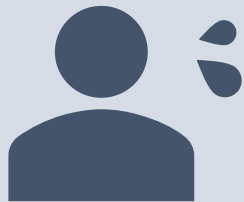
The early discovery of issues and minimization of process downtime are achieved through the AI-based system for detecting problems.



System for detecting problems in polymer production process

Conventional

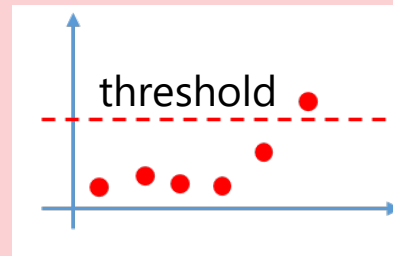
Early detection of production process issues through sensor monitoring is challenging.



Prolonged process downtime due to the discovery and addressing of the problem after the fact.

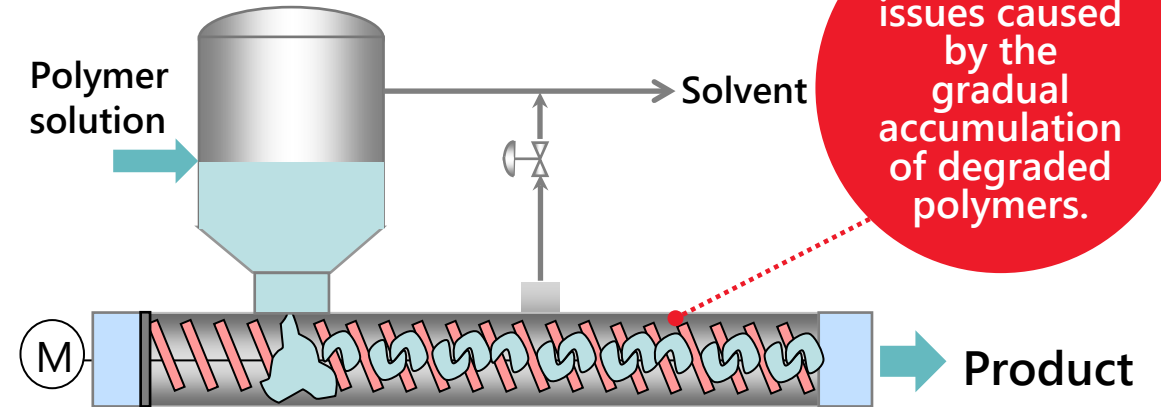
DX

Creating the AI-based system for detecting problems based on past operational data.



The system achieves the early discovery of issues and minimization of process downtime.

(Extruder)



Effects

The minimization of process downtime averted product loss (about 50 million yen/year) from problems

Case study 7: Introduce smart equipment management systems SUMITOMO CHEMICAL

Gain efficiencies by linking IT systems to equipment maintenance infrastructure to achieve early detection of equipment faults and avoid failures



Revamped equipment maintenance infrastructure in 8 plants in Japan

Challenges faced by plants in Japan

Maintain safe and stable operations

Optimize maintenance costs

Pass on know-how from shopfloor operations

Solutions to those challenges and advantages

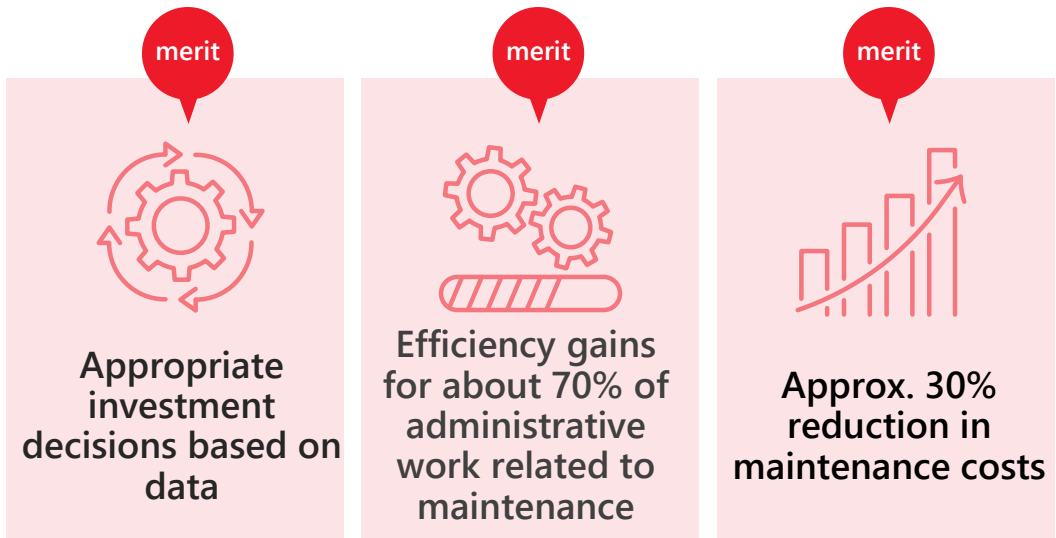
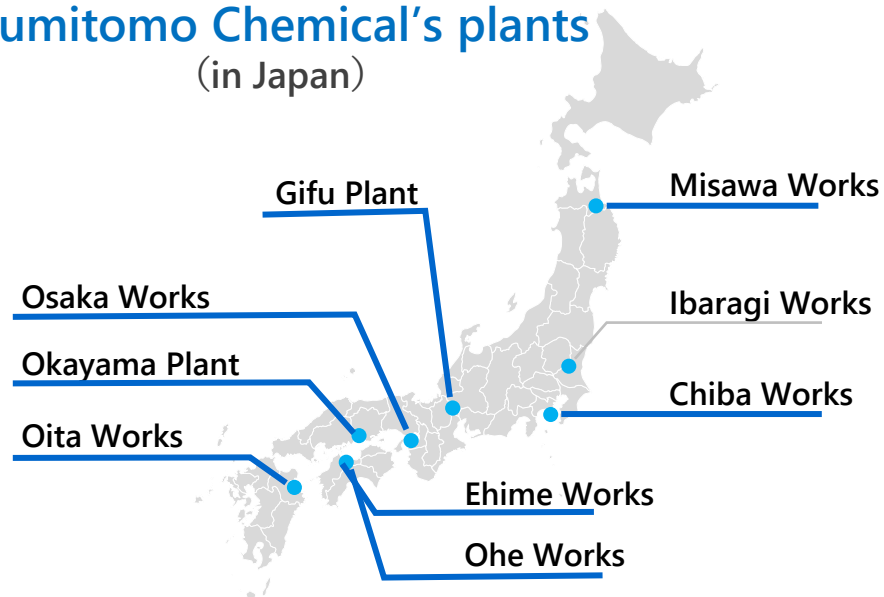
Enterprise Resource Planning package (ERP)



Equipment management systems

Link online

Sumitomo Chemical's plants (in Japan)



Case study 8: Advanced quality assurance that meets customer needs

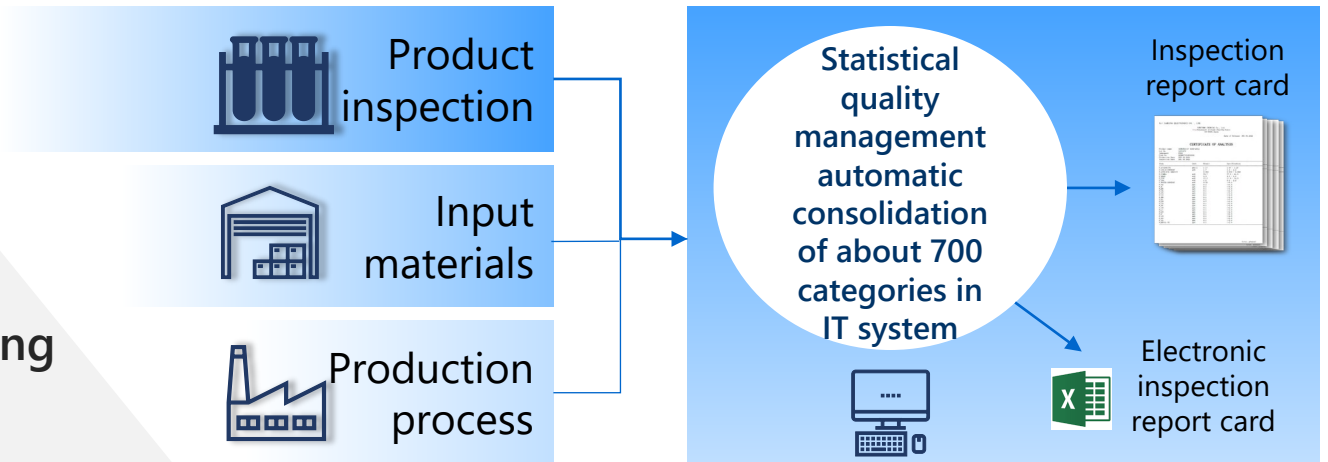
Leverage quality management data to build an infrastructure capable of timely response to customer needs




Strengthen traceability in statistical quality management of materials for IT-related Chemicals




- In addition to product specifications, customers expect management of trends in product characterization
- Rapid factor investigation and reporting of changes in trends



Enhanced customer satisfaction through advanced quality assurance.

Easier to investigate factors behind change in trends 

Faster issuance of inspection report card 

Case study 9 : Stable and rapid supply infrastructure (2)

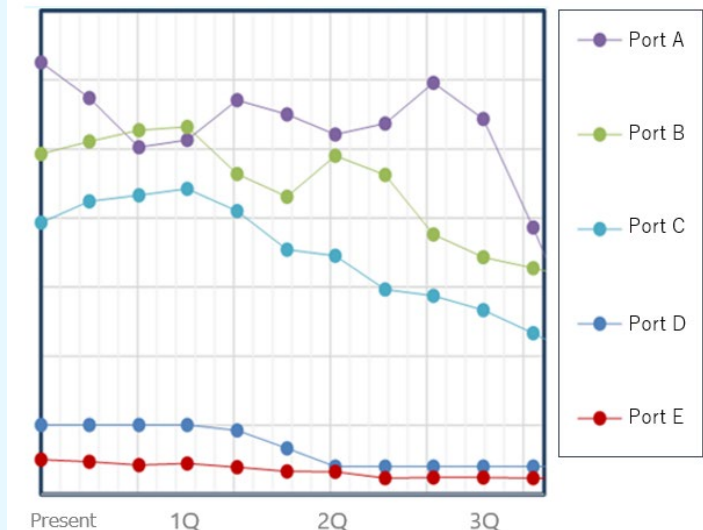
Realizing optimization of inventory volumes and allocations in relay warehouses according to customer sales forecasts.



DX for inventory management of our products

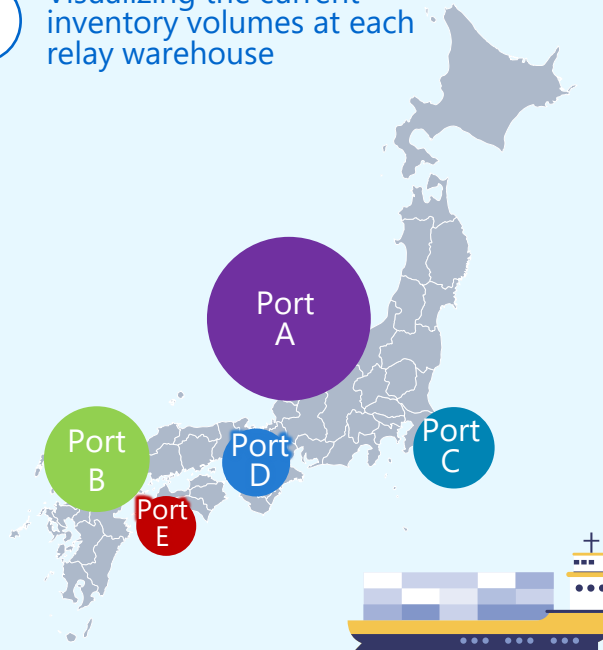
Reasonable inventory simulations

Understanding the theoretical inventory volumes for each relay warehouse based on sales forecasts.



Optimization of inventory volumes and allocations in relay warehouses.

Visualizing the current inventory volumes at each relay warehouse



Customers

- Shortening lead time.
- Stable supply.



Sumitomo Chemical

- Improving CCC (Cash Conversion Cycle) through inventory reduction.



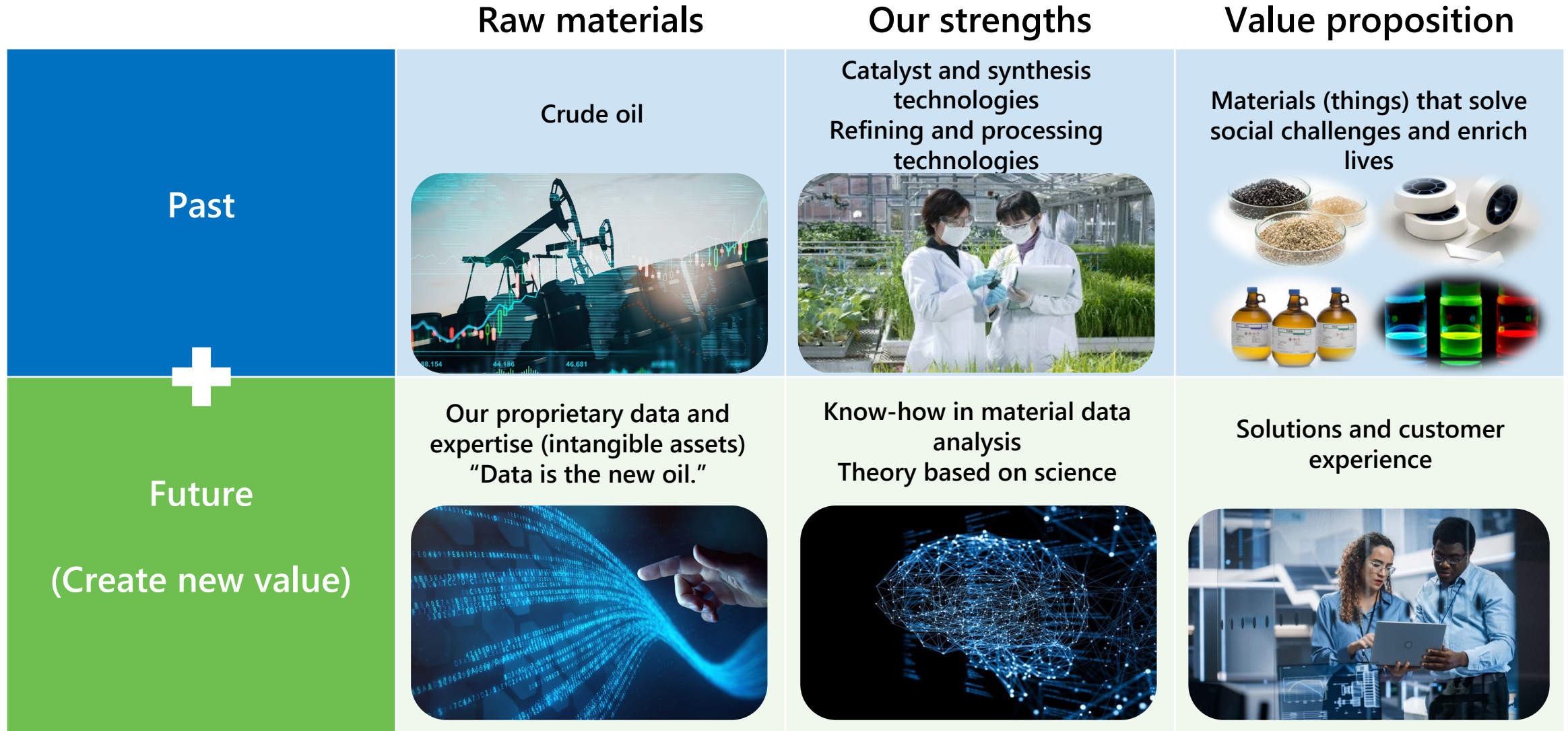
DX Strategy Presentation

Contents

- 01 — Sumitomo Chemical's DX Strategy
- 02 — Foundation DX promotion = Strengthen the Management Base
- 03 — Leveraging DX to Strengthen Competitiveness
- 04 — Leveraging DX to Create New Value**
- 05 — Accelerating into a new specialty chemical company

Value creation through a new business model (DX 3.0 strategy) SUMITOMO CHEMICAL

Leveraging our proprietary data and expertise as intangible assets to create new value.



Initiatives of DX 3.0 Strategy

- Launched dedicated team through internal recruitment as an incubator for new business models (January 2023).
- Select promising ones from among an abundance of ideas. Plan commercialization, develop the product, and launch

Characteristics of the dedicated team



Innovative and entrepreneurial

with



diverse expertise in digital technologies and business



Team nickname:
"Value-nauts®"
(seekers of value)

Role of the dedicated team



Seek business ideas

Refine business ideas focused on experience



carrying out planning, product development, and launch for business implementation

Agile and quick product development



Cultivate incubation talent

Convert to explicit knowledge

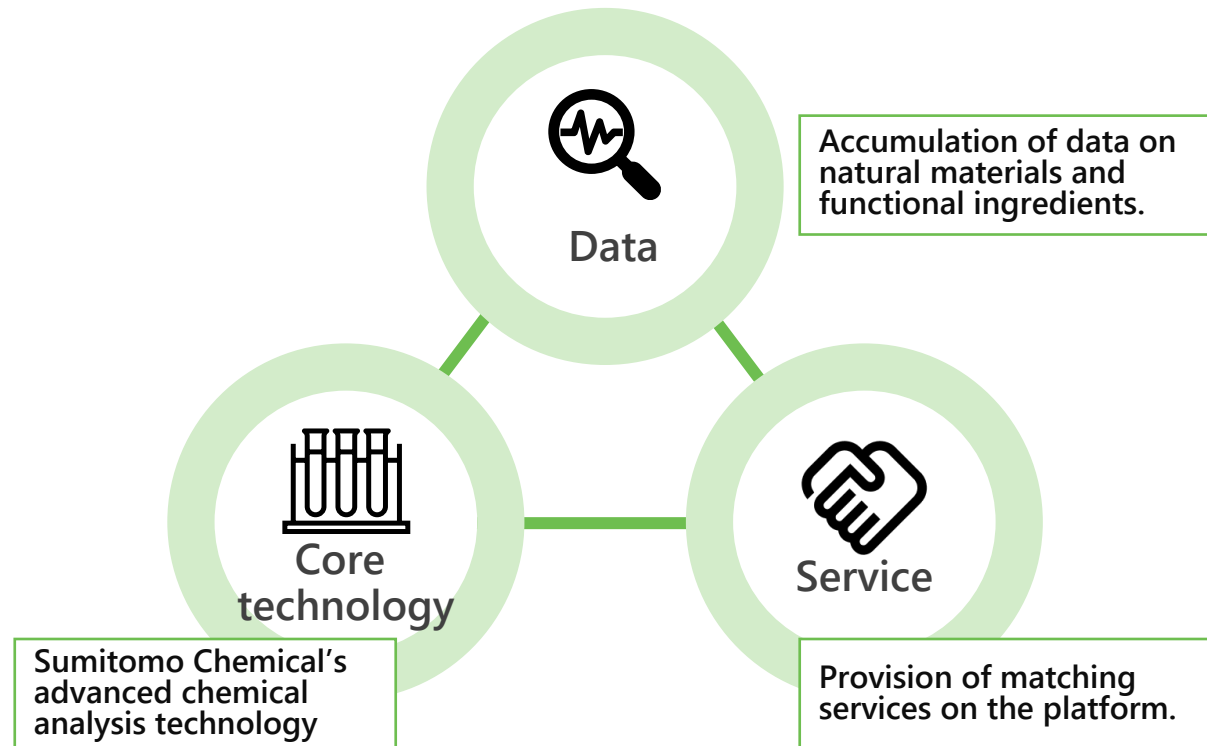
Launched our first product one year after the initiative began

Digital networking platform for natural materials

Biondo

Pronounced: "bee on dough"

Leverage Sumitomo Chemical's advanced chemical analysis technology and wealth of data to **identify excellent functional ingredients** included in natural materials and build out a database of materials identified to have new value. This is a platform where materials **sellers and buyers** can **easily connect** with each other.



Screen while using the service

Biondo

情報で天然素材と人をつなぐ 資源活用プラットフォーム

01 成分分析・レポート
02 素材検索データベース
03 取引履歴

フルーツマト (フルティカ)

素材情報	
品名	フルーツマト
品類	フルティカ
種別	果実
製造国	埼玉県
産地	春日部市
収穫時期	6月7月8月
食料可否	食用可
素材の特徴	収穫後、2週間以内の冷蔵管理で熟成させて甘味が増したフルーツマトです。
分析検出日	2023/6/26

素材の取引情報	
供給可能量	500kg/月
希望取引価格	2,500円/kg
提供可能時期	6月7月8月

コンタクト希望

成分名 (化合物名) 最大含有量 (mg/100g) 最大ピーク面積

データベース登録プランに加入して 成分検索をはじめましょう

The value that we aim to provide through Biondo

Promoting the effective utilization and contributing to resource recycling through the discovery of new value in natural materials.

Examples of value loss in natural materials:
food waste



Identifying new value in natural materials promotes a **rethinking and recycling or upcycling of food resources that have gone to waste** in mass volumes

Examples of targets for value creation:
growing health and beauty market



Analyze useful ingredients contained in natural materials and identify their excellent health functionalities to **contribute to development and sales expansion of foods related to health and beauty.**

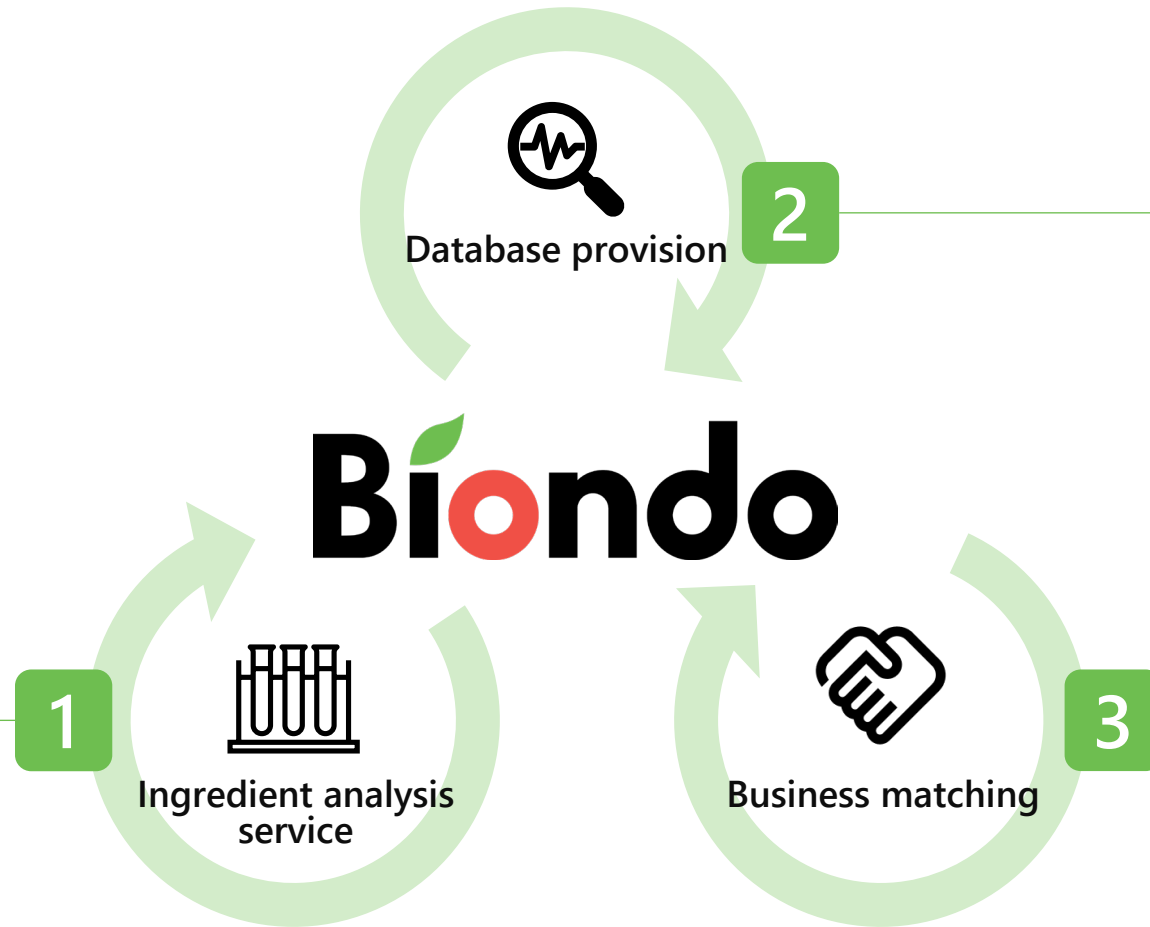
*1 (Source): Consumer Affairs Agency, Reference Material Related to Food Loss Reduction (June 9, 2023 Version) Installment 2

*2 (Source) Fuji Keizai, Survey on the Domestic Market for Functional Foods, Foods for Specified Health Use, etc. 2022 market projections

Website integrates delivery of 3 types of services aimed at encouraging use of natural materials

User benefits

Leveraging advanced analysis
Capable of finding multiple value points hidden in materials leveraging comprehensive analysis technology and analysis algorithms.



Easily acquire the desired specialized information
Efficiently search material information from the perspective of compounds (ingredients), functionality, or the like

Material buyers and sellers are linked easily
Material buyers and sellers are linked easily. Sellers can efficiently connect with new buyers by disseminating functionality information discovered using ingredient analysis

Plan to open in July 2024

Thereafter, grow through repeated version upgrades based on user feedback

DX Strategy Presentation

Contents

- 01 — Sumitomo Chemical's DX Strategy
- 02 — Foundation DX promotion = Strengthen the Management Base
- 03 — Leveraging DX to Strengthen Competitiveness
- 04 — Leveraging DX to Create New Value
- 05 — Accelerating into a new specialty chemical company**

Accelerate our rebirth into a specialty chemicals company

Leverage DX to upgrade management and realize business reform

Strengthen business competitiveness with rapid decision-making and agile action

Enhance productivity and creativity of humans through collaboration with AI and robots

Create new value with new business models

Value creation leveraging data and know-how as assets

Continually address change through innovative talent and organizations

Cultivate mindsets where each employee drives reform

Accelerate our rebirth into a specialty chemicals company through our DX initiatives

Cautionary Statement

Statements made in this document with respect to Sumitomo Chemical's current plans, estimates, strategies and beliefs that are not historical facts are forward-looking statements about the future performance of Sumitomo Chemical. These statements are based on management's assumptions and beliefs in light of the information currently available to it and involve risks and uncertainties.

The important factors that could cause actual results to differ materially from those discussed in the forward-looking statements include, but are not limited to, general economic conditions in Sumitomo Chemical's markets; demand for, and competitive pricing pressure on, Sumitomo Chemical's products in the marketplace; Sumitomo Chemical's ability to continue to win acceptance for its products in these highly competitive markets; and movements of currency exchange rates.