

## Digital

## Message from the CDO



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Senior Vice President  
Chief Digital Officer

## Becoming a “digital chemical company” by utilizing digital technologies and business models and developing “Smarter Employees” to drive increased value

### Redefining our digital strategy and aiming for global excellence

In February 2023, Mitsubishi Chemical Group Corporation announced a detailed executable plan based on our “Forging the future” management policy and updated financial targets. During the process of formulating this plan, we redefined our digital strategy and our vision, and set a goal of becoming a digital chemical company that can adapt to continuously changing markets. We are aiming for global excellence by utilizing digital technologies and digital business models, and by transforming processes and how they are managed to drive earnings improvements.

In concrete terms, we will work through a cycle of (1) developing a deep understanding in real time of internal and external environmental change and customer status, (2) having open discussions and making fact-based decisions based data and information analysis, and (3) springing into action quickly and making improvements through continuous review. To achieve this, every single employee will need to act with the courage to change conventional ways of thinking and standard business practices. As the leadership team, our role is to create the systems and the environment that supports our employees to be brave and take action.

I do not want our digital divisions to only play a role in developing our IT systems. We need to shift our attention to working with other divisions to create new value and lead our transformation. To help realize this vision, we

restructured our digital divisions in April 2023 and set more appropriate key performance indicators (KPIs) for digital divisions in order to strengthen internal and external cooperation and have the right systems in place to advance these ideas.

### “Genba (Operation) × Digital” innovation to create new value

My view is that a digital chemical company can multiply value through “Management × Business × Genba (Operation) × Digital.” The Mitsubishi Chemical Group’s strengths lie in our wealth of talented employees who tackle challenges head on. I am confident that we can create enormous value if we help every single employee on-site to become an upskilled and work even smarter than before “Smarter Employee” who can utilize digital technologies and digital business models in their work. We are putting the necessary training systems in place to achieve this.

Today, we have multiple top-down and bottom-up digital projects running in parallel. As the Chief Digital Officer, I focus on achieving even closer communication with key people at each site to progress these activities.

As a Group with such a wide-ranging product portfolio, I think that our drive to understand society’s needs in real time and make immediate changes will be crucial for our transformation journey into a specialty chemical company with a focus on performance products. Our transformation may also help to drive change across Japan’s entire manufacturing industry.

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## Digital Digital Strategy

We are making steady progress with our digital strategy aimed at improving earnings and developing Smarter Employees. We are working to become a digital chemical company by utilizing digital technologies and digital business models, coordinating across divisions to create new value, and leading transformation inside and outside our organization. This will allow us to cement the competitive advantage of the Mitsubishi Chemical Group.

### DX across all end-to-end processes to become a digital chemical company

Our digital divisions have been tasked with playing three key roles: (1) Trusted Operator, creating environments to take full advantage of digital technologies; (2) Business Creator/Co-Creator, creating and co-creating new value; and (3) Change Instigator, leading our transformation journey\*. We are implementing a range of projects on the road to becoming a digital chemical company. We have clarified what we need to do under each of these three roles, set KPIs, and are monitoring progress to steadily execute our strategy. In the past few years, there have been significant expectations for the digital divisions to act as Business Creator/Co-Creator and Change Instigator, so we are focusing our efforts on projects where we can play these roles.

When implementing projects, we take into account the timelines and scale of expected outcomes as well as the role we are playing. In parallel with initiatives for "tactical improvements" to quickly unlock potential value, we are pursuing the phased implementation of multiple projects that span everything from "basic transformation" to "enterprise transformation" in order to generate outcomes that will have a substantial impact over the medium to long term.

Through these programs, we will use end-to-end processes at the MCG Group as the starting point for our organizational and corporate operations.

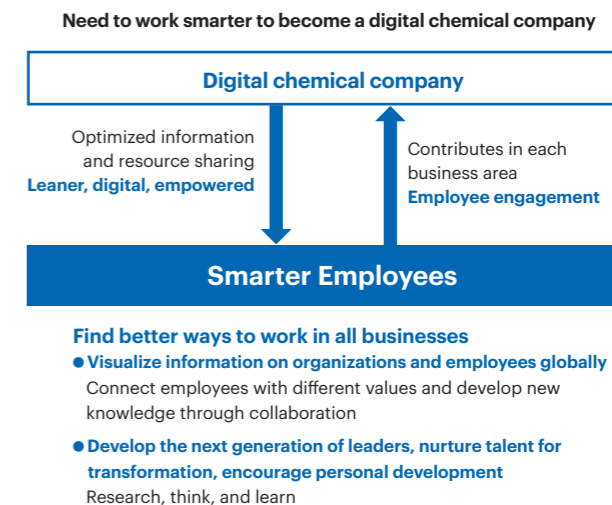
\* Created in-house based on 2020 Global Technology Leadership Study by Deloitte Tohmatsu Group

### Relationship between a digital chemical company and Smarter Employees

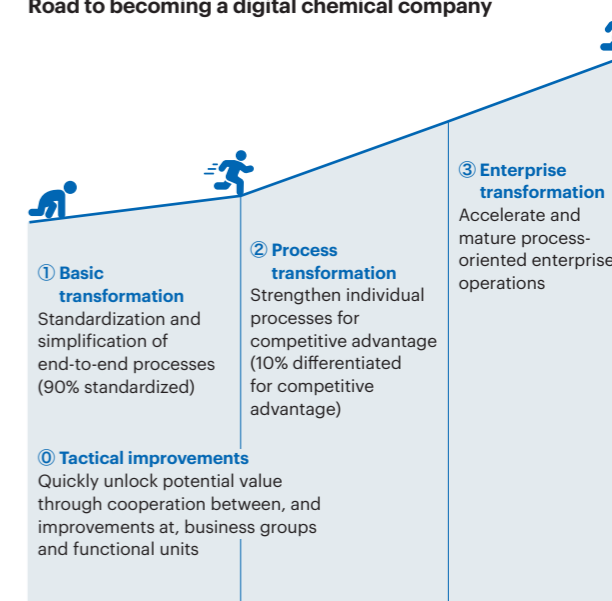


### Key projects

<b>Trusted Operator</b>	<b>Creating environments to take full advantage of digital technologies</b>
<b>Management:</b> Realize data-driven decision-making by visualizing earnings and business performance	
<b>Manufacturing:</b> Introduce operational data sharing platform to control plant operations remotely	
<b>HR:</b> Develop Smarter Employees, set up reverse mentoring for IT	
<b>Business Creator/Co-Creator</b>	<b>Creating and co-creating new value</b>
<b>Sales:</b> Improve commercial capabilities through dynamic pricing	
<b>GX:</b> Use digital technologies to strengthen LCA system	
<b>HR:</b> Introduce global HR system	
<b>Change Instigator</b>	<b>Leading our transformation journey</b>
<b>Procurement:</b> Transform our procurement functions	
<b>R&amp;D:</b> Develop and utilize unique data-based applications to speed up customer solution proposals	
<b>Infrastructure:</b> Consolidate global ERP system	
<b>Infrastructure:</b> Promote citizen development using low-code platform	
<b>Logistics:</b> Establish collaborative logistics in the chemical industry	



### Road to becoming a digital chemical company



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## Digital

### Digital Strategy

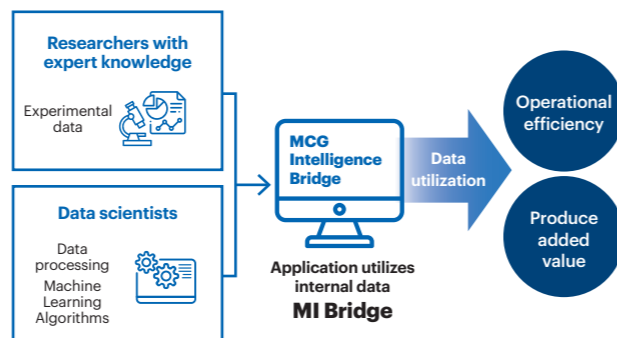
#### Promoting DX throughout the supply chain

##### Change Instigator

#### R&D: Development of MI Bridge, a Data Utilization Application to Accelerate Customer Solution Proposals

The MCG Group has built a data utilization application called MI Bridge. MI Bridge enables co-creation between data scientists and material science and business experts. By incorporating the appropriate data processing and machine learning algorithms on MI Bridge, data scientists enable researchers to easily register experimental data, search for experimental data, and perform inference and inverse analysis using machine learning techniques. Through “MI Bridge,” researchers’ experience and tacit knowledge can be shared, thus integrating insights in material design. This can reduce material development time and create new added value, leading to the acceleration of solution proposals to customers. The MCG Group is committed to promoting MI Bridge’s internal adoption and feature enhancement, with the ultimate objective of providing more rapid and effective material solutions to our customers.

#### Scheme of the application (MI Bridge)



##### Trusted Operator

#### Manufacturing: Introduce operational data sharing platform to control plant operations remotely

Labor forecasts point to a shortage of human resources with extensive work experience because of the decline in birth rates and increased employment mobility. We are working to develop remote operation technologies that will allow experienced machine operators or staff to supervise and operate plant equipment from remote locations. We are installing and testing an operational data sharing platform that allows error-free, comprehensive, accurate, and rapid retrieval, by device serial number, of the manufacturing and maintenance data stored in various systems from a remote location.

This infrastructure will support remote operational control and allow decision-making based on accurate data. If problems arise, the system should allow us to minimize any impacts and rapidly restore services.

##### Business Creator/Co-Creator

#### Sales: Improve commercial capabilities through dynamic pricing

We are working to establish the latest world-class price management processes for our global operations by introducing a dynamic pricing program, with the goal of establishing the structures needed to improve profits. We are implementing data-driven pricing by using a tool that provides detailed information on costs and profits and consulting with an appropriate forum of stakeholders. The insights and proposed prices derived through this process allow our sales force to be more convincing in negotiations with the customer.

We have started using this approach in a number of businesses and have had success in improving margins significantly, even in difficult market environments. This program is just the first step in our goal to build a world-class commercial organization.

## ACTION

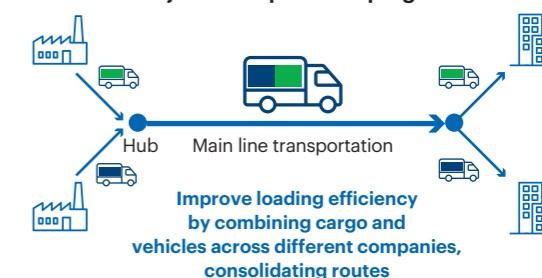
##### Change Instigator

#### Logistics: Establish collaborative logistics in the chemical industry

A recent trend in the logistics industry has been the increase in demand for consumables logistics, which tend to involve smaller loads. At the same time, we are seeing a rise in the average age of truck drivers and sailors, creating a labor shortage and in turn a tight supply-demand balance. Labor shortages will impact transportation and storage operations in the chemical industry as well, and this is a key issue for our business operations.

Against this backdrop, Mitsubishi Chemical Group Corporation has started working with other companies in the chemical industry to take a more collaborative approach to logistics that goes beyond single company operations. For example, we have launched a study with other companies to investigate the development of a digital platform to consolidate transportation routes and optimally match cargo with vehicles for greater transportation efficiency. We plan to collaborate on this concept with more companies in the future. As well as ensuring efficient and stable logistics services, this program is expected to reduce GHG emissions.

#### Schematic of joint transportation program



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## Digital Strategy

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## Using digital technology to change organizational foundations

## Change Instigator

## Infrastructure: Promote citizen development using low-code platform

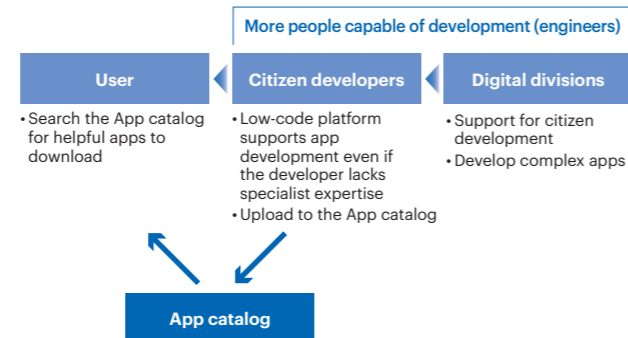
App development has generally been considered technologically challenging and difficult for employees without specialist expertise. MCG has decided to tackle this by introducing a tool that can be operated intuitively by anyone, even employees without programming expertise, to easily produce an app. We have also built our own App catalog, where employees can upload their own apps.

This allows employees to share the apps they have developed for use by other members. This sharing of ideas and outputs will contribute to greater operational automation and data visualization, thereby helping us to create effective solutions in shorter time frames.

We continue to work on creating an environment that promotes citizen development and supports communication among our people, with the goal of driving innovation and improving ability and capability across the organization.

## Enhanced app development

- Deliver an environment where even those without specialist expertise can intuitively develop apps
- Establish an App catalog so that anyone can use citizen-developed apps



## ACTION

## Trusted Operator

## Management: Realize data-driven decision-making by visualizing earnings and business performance

One of the key elements when realizing the “Forging the future” management policy is to use consistent rules to visualize earnings and business performance across the entire Group. In the past, different companies within the Group have used different reporting definitions and data aggregation involved manual processes, making it difficult to get an overall picture of earnings and business performance in near real time.

We have therefore formed a cross-departmental team to develop an integrated dashboard that will automatically reflect earnings and business performance-related data from Group companies in near real time. The dashboard has been loaded with financial and business performance management indicators used for financial management and can be used by business group and functional unit leaders to check information on earnings or progress versus targets. The use of standardized management indicators and output from structured data processing allows decisions to be made based on the right numbers regardless of timing.

Other positives from the dashboard being an obligatory part of our operations include maximized data reliability and a significant reduction in manual processes to prepare data. As a result, all organizational units can now focus on understanding how they are progressing versus targets. We continue to add more financial and non-financial indicators to the dashboard and expand the concept based on an enterprise value driver tree.

## Trusted Operator

## HR: Develop training programs for Smarter Employees

Our goal is for all MCG Group employees to be “Smarter Employees.” We define “Smarter Employees” as employees capable of utilizing digital technologies and business models and making various changes themselves to find more effective and efficient ways of working, from improvements in daily tasks to business transformation and value creation. We need to work smarter than before if we are to become a digital chemical company, so we have positioned this as a focus theme for the entire organization.

In fiscal 2022, we clarified our vision for the types of Smarter Employee needed and put training systems into place as part of the “One Company, One Team” concept. We are expanding the range of training programs available, tailored to the needs of different employee groups from new recruits to management levels as well as training relevant to all employees, and are systematically implementing our development plans.

## Summary of main training sessions

## On entry to the Company

- Digital literacy basics
- DX basics

## For all employees

- Data analysis, Data visualization, Robotic process automation (RPA)
- Design thinking, Agile, Data use/application and management
- Information security, Change management

## For management

- Applying digital technologies, Examples of DX inside and outside the Company
- DX follow-up