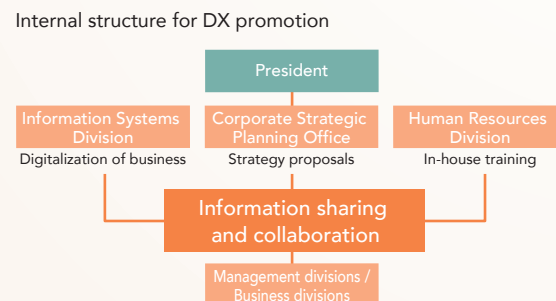


Feature DX Promotion Initiatives

Basic Concept of DX Promotion

Our Group started efforts toward DX promotion around 2018, beginning with the introduction of AI/IoT, and began human resource development in FY2023. In FY2024, we will consider building a DX promotion structure, training human resources, securing budgets, and assigning digital personnel and roles to each department and the Information Systems Division.

The DX promotion system is divided into three phases: Start-up Phase, Transition Phase, and Maturity Phase. The Start-up Phase focuses mainly on training, promoting intermediate training in the Training Dojo for selected members, and introducing education for all employees. During the Transition Phase, we will continue to provide support for DX promotion in each business division and continue the training. In the Maturity Phase, DX leaders will be assigned to each business division, and the Information Systems Division will become the main department responsible for DX promotion.



Roadmap for DX promotion initiatives

In FY2023, we distributed educational content on DX to all GS Yuasa employees to promote the internal development of DX human resources on a full scale with the aim of raising DX levels by having employees take the course. In addition, we opened a "DX Training Dojo" and conducted specialized training for 49 employees who were recommended by their divisions. In FY2024, in addition to continuing the initiatives from FY2023, we have newly established an external AI consultation desk for DX Training Dojo graduates. We are receiving advisory services for AI development using submitted data.

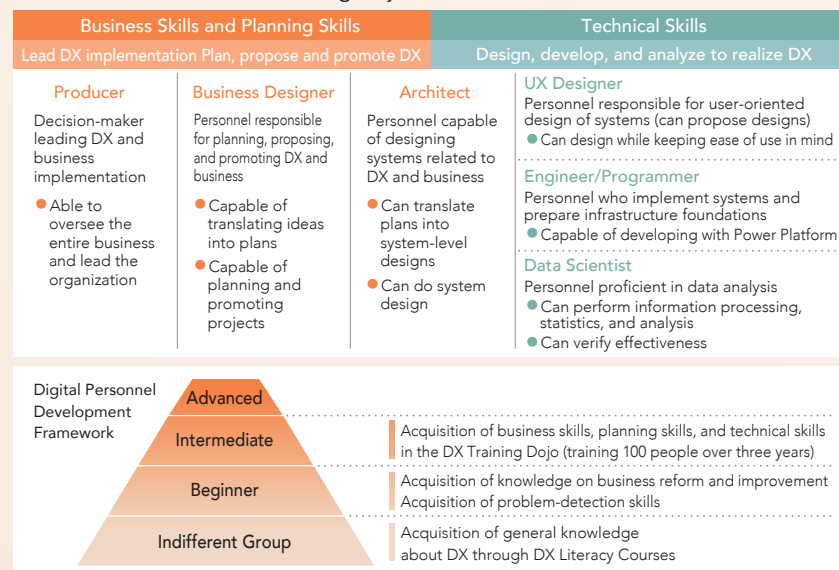


Digital Personnel Development Plan

Digital personnel development is targeted at those with basic to intermediate knowledge. For beginners, an in-house training curriculum centered on Microsoft 365 is provided to enable improvements in surrounding tasks. A curriculum combining external content is provided for intermediate-level individuals, divided into three roles: Business Designer/Architect, Engineer/Programmer, and Data Scientist, to acquire the ability to promote DX.

We will continue to consider establishing a DX training system in the future.

Education skills at the DX Training Dojo



Examples of Our Group's DX Initiatives

Efforts to increase the accuracy of sales demand forecasts for automotive lead-acid batteries using AI

It is a critical mission of GS Yuasa to quickly and reliably deliver automotive (four-wheeled vehicles) replacement lead-acid batteries to our customers. In addition, forecasting sales volume is extremely important to resolve the dilemma of stable supply and inventory reduction.

Traditionally, we have made sales forecasts based on recent shipment trends and our experience from sales employees, but the problem was that grave forecast errors resulted in larger inventories or lost sales opportunities due to running out of products. Thus, in order to improve accuracy, we began working to deploy AI in FY2019, and fully introduced AI-based sales forecasting in FY2020.

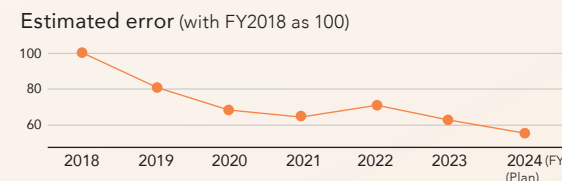


A meeting for the sales forecasting AI promotion project

What is sales forecasting AI?

We have AI learn past sales volumes, temperature trends, and industry statistics to forecast sales volumes for four months, including the current month. Utilizing a tool (Data Robot) that can automatically learn AI models, the Company drastically reduced the man-hours required to forecast 1,200 different ways (approximately 300 products x 4 shipping locations), which were previously performed by sales staff.

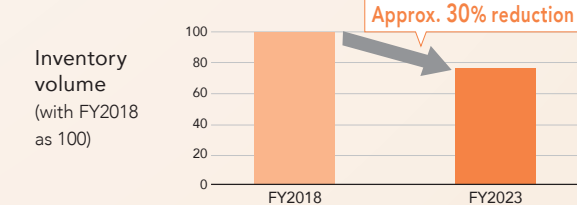
- [Effect by the introduction]
- Estimated time required halved
 - Estimated error reduced by about 40%
 - Inventory reduced to record low levels (with delivery rate maintained)



Realization of "AI that is used" through on-site promotion

By having the units at work sites serve as the actors and working from the bottom up, we have achieved both "accumulation of IT knowledge in the work sites" and "AI that is used in the work sites and utilized in the business."

When the system was first introduced, some sales employees followed the conventional method of forecasting without using AI forecast values, but we changed the system to one that could reflect the voices and will of the sales frontlines and worked to spread it. We aim to continuously increase the accuracy of our AI by preventing the deterioration of AI accuracy due to changes in demand trends and the consolidation of models, which is an inherent part of sales forecasting.



Future prospects

We aim to further optimize inventory in FY2024. In addition to AI-based sales forecasting, we are also working to standardize production management methods and improve planning accuracy by introducing a production planning system as the next DX measure.

Voice Voices of DX Training Dojo Participants

I gained a deeper understanding of data analysis methods, statistical methods, AI business utilization, and machine learning model building, acquiring concrete skills and insights that can be applied to solving everyday problems.



Report from the DX Training Dojo executive briefing in FY2023

I have acquired versatile skills that can be useful for future work, not only in regular work but also in event hosting and promoting new projects.

Feature Efforts Toward New Business Creation

-New Business Creation Challenge Project "Biz Challenge"-

Toward New Business Creation

In our Group, aiming for GS Yuasa's medium- to long-term growth as outlined in the long-term vision Vision 2035, we launched a new business creation project, "Biz Challenge," in December 2022. In this program, we challenge new areas of business through a company-wide public call leveraging the wisdom of our employees. Under the theme "Business that contributes to solving social issues starting from GS Yuasa's unique qualities," we solicited ideas internally, and over 150 ideas were gathered. From there, we adopted promising ideas, gradually narrowing them down through a stage-gate process, enhancing the resolution of customer issues and solutions, and striving toward commercialization. The second call for proposals was held in 2023, and we plan to continue evolving the project every year in the future.

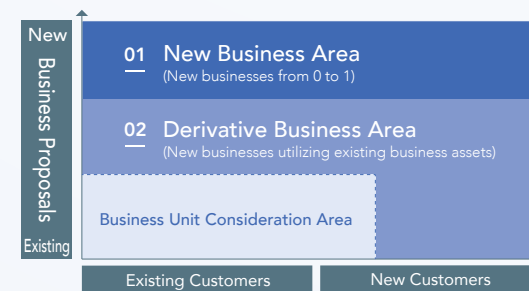
In addition to this activity, we are also generating new business ideas, focusing on expanding existing businesses and developing derivative business areas utilizing existing business assets. We will challenge new business fields with the two approaches of "Biz Challenge," which solicits a wide range of ideas, and "Focused Examination (task force style)" for expanding existing businesses.



Presentation of the selected members of the 1st Biz Challenge

Desired Image of New Business

New businesses include those built from scratch and derivative areas utilizing existing companies' customer base, business base, and technology of existing businesses. Also, utilizing digital technology to add value to existing products, which leads to selling "Koto," or combining existing products to add new value, is considered a new business. We aim to solve social issues by leveraging GS Yuasa's unique qualities and contributing to people, society, and the global environment.



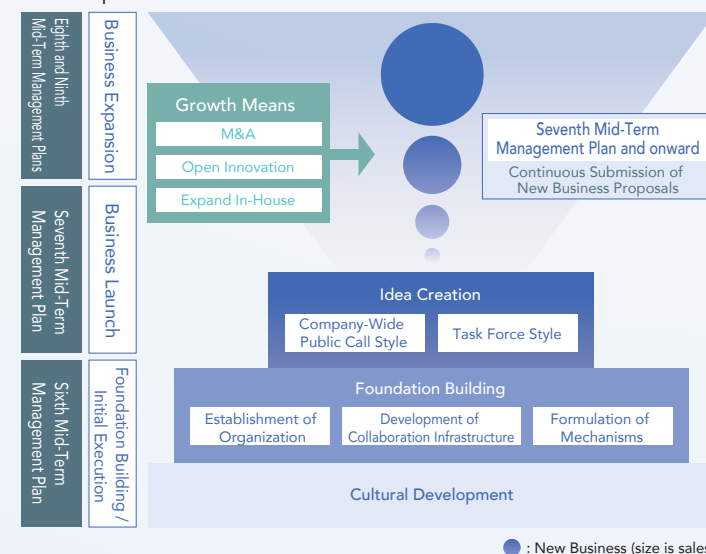
Time Schedule Towards Commercialization of New Businesses

To commercialize new businesses, we will build a structure that nurtures the foundation of our activities – a culture full of challenging spirit – and fosters new business seeds during the Sixth Mid-Term Management Plan.

Through activities such as brainstorming sessions, training curriculums for new business development, and lectures by external practitioners, we are spreading fundamental knowledge and fostering a proactive atmosphere that encourages challenges. We are working on creating frameworks, collaboration bases, and more.

From the Seventh Mid-Term Management Plan onward, we will proceed with the full-scale launch and expansion of new businesses, accelerating our efforts in new business development. To grow the business quickly, we will broadly consider methods such as open innovation and M&A.

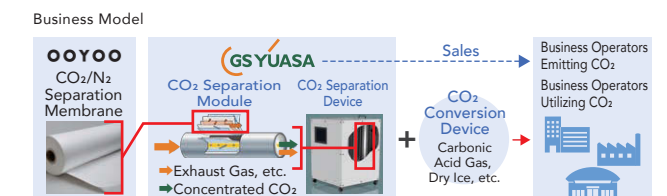
Roadmap for New Business Creation Activities



TOPICS New Business

01 GS Yuasa and OOOO Sign Basic Agreement for the Development and Market Provision of CO₂ Separation Membrane Systems

The Company, the Group Company GS Yuasa Membrane Co., Ltd., and Kyoto University-based startup OOOO Ltd. reached a basic agreement in October 2023 to develop and provide high-performance CO₂ separation membrane systems that will enable CO₂ capture and reuse. Combining the world's most advanced high-performance CO₂/N₂ separation membrane technology owned by OOOO with the high-efficiency spiral module technology developed by GS Yuasa Membrane, we will develop compact and energy-efficient CO₂ separation systems. These systems will be able to separate and recover CO₂ from exhaust gases and process gases in factories, contributing to the establishment of carbon recycling technology. This will help create a carbon-neutral society by utilizing the recovered CO₂ to produce items such as carbonated gas, fertilizers, dry ice, chemical products, and fuel.



See here for details ▶ <https://newsroom.gs-yuasa.com/en/news-release/163>

02 Concluded Ecosystem Partnership Agreement with Plug and Play Japan

In August 2023, the Company concluded an Ecosystem Partnership Agreement* with Plug and Play Japan Co., Ltd. Plug and Play Japan is one of the world's top-level accelerators and venture capital firms. They support co-creation between startups with innovative technologies and ideas and large companies. This partnership agreement will further accelerate our efforts to create new businesses by promoting DX and new business creation through collaboration with startups and open innovation.

* Ecosystem Partnership: A partnership agreement promoting collaboration with startups in the focus areas of business challenges and technology.

Internal cultural development events

Seminar Theme Name	Main Content
New Business Mindset Development Seminar	The significance of engaging in new business
Intrapreneur Lecture	Examples of other companies' initiatives towards new business
Idea Creation Workshop	How to find new business ideas
Startup Entrepreneur Lecture	The significance of engaging in innovation



Seminar scene

Voice Voices of New Business Secretariat Members



New business secretariat members

About 100 years ago, one of the founders, Genzo Shimadzu II, emphasized the spirit of invention to contribute to society through the development of high-quality products, while the other founder, Shichizaemon Yuasa, emphasized a pioneering spirit by developing new businesses ahead of the times. Both entered the lead-acid battery industry from different sectors. In the rapidly changing modern era, we will continue our pursuit of "Innovation and Growth," which is our management philosophy, for the next 100 years by advancing the development of new businesses.