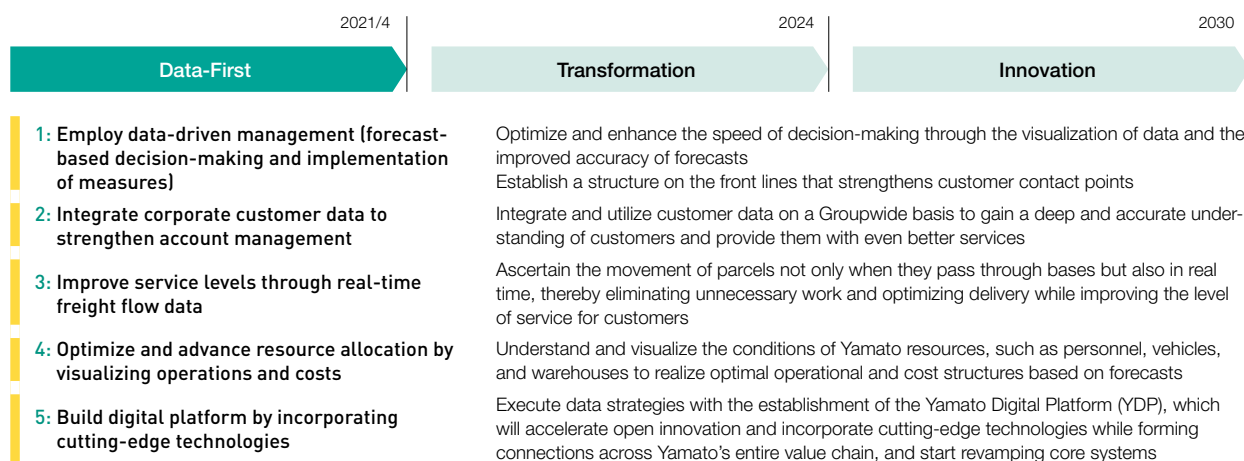


Promoting Data and Innovation Strategies

With the shift to data-driven management as a fundamental strategy, in addition to updating the existing core systems, we will promote the maintenance of digital data and the strengthening of our digital foundation to further advance the utilization of data. We are able to support the digital aspects of our growth strategy through expansion of the Yamato Digital Platform, which focuses on data acquisition mechanisms that utilize cutting-edge technology and cloud technology. In addition, we will promote the further reinforcement of open innovation, such as the discovery of and collaboration with start-up companies, as well as investing in start-ups to create new business.

Shift to Data-Driven Management

- Invest roughly ¥100.0 billion in digital fields over the four-year period starting from the fiscal year ending March 31, 2021
- Launch a new digital organization with 300 personnel in 2021
- Execute five actions to launch a new organization with the aim of achieving results in the near term
- Launch CVC fund to accelerate open innovation



Initiatives for Innovation Strategy

Initiative

Establishment of CVC Fund KURONEKO Innovation Fund

In April 2020, we launched the corporate venture capital (CVC) fund KURONEKO Innovation Fund together with the major independent venture capital fund corporation Global Brain Corporation.

The basic stance of the KURONEKO Innovation Fund is to “Always think from a long-term perspective, provide start-up companies with all the assets that the Yamato Group has to offer, and grow together with them.” Rooted in this basic stance, this CVC fund strives to achieve the following three goals: (1) Create new growth models, (2) Realize outstanding operational efficiency, and (3) Promote open innovation through consistent management of funds. To that end, the fund will invest in start-up companies both in Japan and overseas that possess innovative technologies and business models that can transform logistics operations and supply chains. At the same time, the fund aims to create growth models in the logistics market and other related markets by opening up the Yamato Group's management resources.

Fund Overview

Name (registered name)	KURONEKO Innovation Fund L.P. (YMT-GB Investment Limited Partnership)
Fund size	¥5.0 billion
Operation period	10 years
Investment target	<ul style="list-style-type: none"> ■ Start-up companies with innovative technologies and business models that can transform logistics operations and supply chains ■ Start-up companies that have potential as Yamato Group partner companies
Target stage	Seed, early, and middle, in principle
Target area	Mainly focus on Japan, but also invest in North America, Europe, and Asia
Unlimited liability partner	Global Brain Corporation
Limited liability partner	Yamato Holdings Co., Ltd.

■ First investment project: Development of Chinese automated delivery robot “Yours”
<https://www.yamato-hd.co.jp/news/2020/20201207.html>

Initiatives for the Digital Transformation



Optimization of Operations through Data Analytics

Through detailed data analysis and the utilization of AI, we will enhance the accuracy of our demand and workload forecasts. Based on these forecasts, we will better allocate personnel and vehicles and improve delivery routes. Through such efforts, we will aim to boost pickup and delivery productivity by optimizing and standardizing transportation and delivery processes as well as our overall operations.

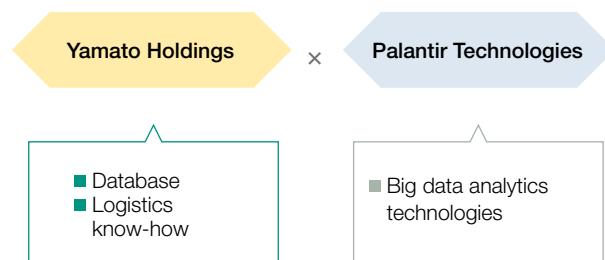
Initiative

Collaboration with Palantir Technologies to Accelerate DX

In July 2020, we initiated efforts aimed at accelerating the operational reform of the Yamato Group and the DX of the logistics industry in collaboration with the U.S.-based Palantir Technologies Inc., a leading company in the global market for big data analytics.

Leveraging the technologies of Palantir, we will build a digital platform that creates new added value for our customers. At the same time, we will aim to optimize resource allocation, streamline the supply chain, and enhance the level of service we offer customers.

Furthermore, through operational innovation, not only will we transform the Yamato Group itself, we will also lead the way with innovations in the overall logistics industry in Japan.



Provide optimal supply chain solutions for customers through innovations to logistics operations using sophisticated data analysis

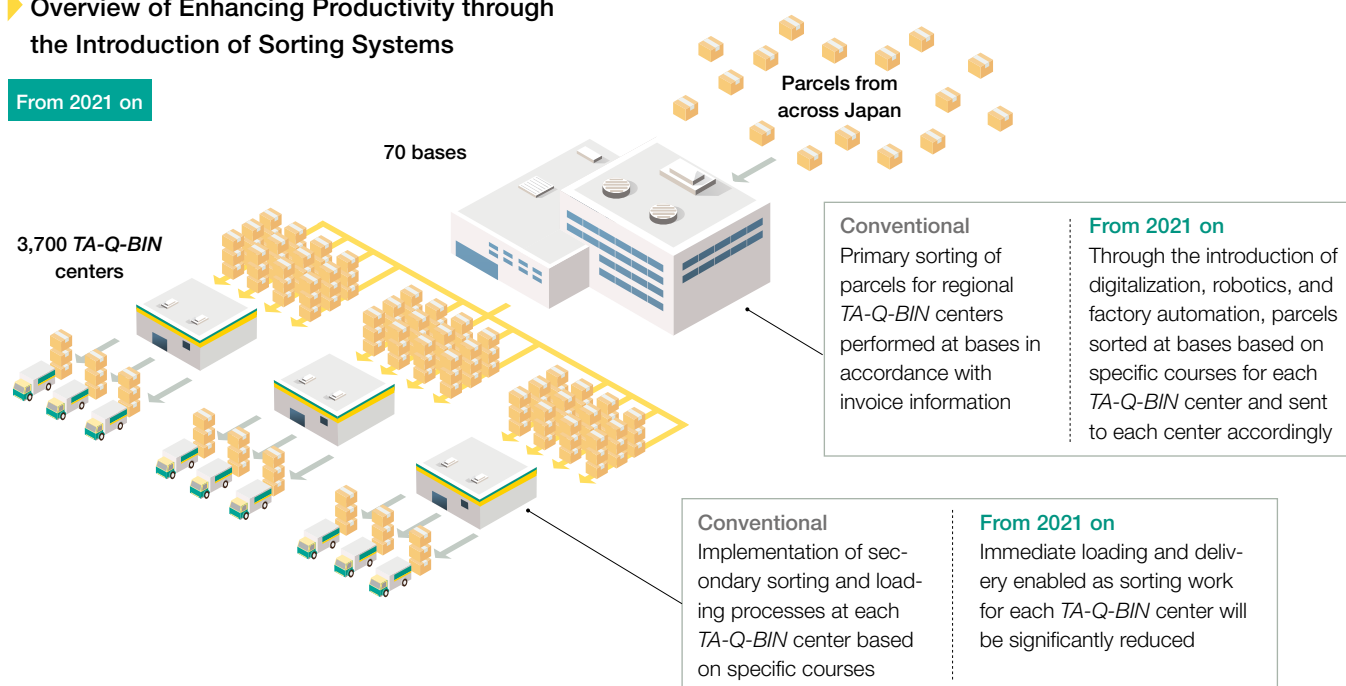


Enhanced Productivity in Logistics Operations through the Introduction of Sorting Systems

We will improve the productivity of sorting operations across our entire network by 40% through the introduction of unique sorting systems that innovate conventional sorting processes. Through such efforts, we will significantly enhance the productivity of our logistics operations.

Overview of Enhancing Productivity through the Introduction of Sorting Systems

From 2021 on



Promoting Data and Innovation Strategies

Message from the Executive Officer Responsible for Data Strategy



Norihiko Nakabayashi

Executive Officer

Responsible for Digital Function
and Digital Data Strategy

We aim to create new delivery methods and new customer experiences by integrating the abundant physical resources we have cultivated with physical technology.

Profile

Mr. Nakabayashi began working for IBM Japan Ltd. in 2002. As a data scientist, he supported the utilization of data from numerous companies. Following this, he was the deputy director of the data science lab at OPT Inc. (currently Digital Holdings, Inc.) and the chief data scientist for Sompo Holdings, Inc. until August 2019, when he began working for Yamato Holdings. Currently, as an executive officer of Yamato Holdings, he is in charge of the data strategy for fields such as architecture and data science. In addition, Mr. Nakabayashi teaches big data analytics as a guest associate professor at the University of Tsukuba.

Data-Driven Management to Generate Innovation

The Yamato Group delivers approximately 1.8 billion parcels every year by utilizing our abundant physical resources, from our over 220,000 employees to over 50,000 vehicles, 77 terminal locations, and approximately 3,700 *TA-Q-BIN* centers. However, most of the information up to this point has not been digitalized and even now, more than 40 years since we launched our *TA-Q-BIN* service, the reality is that we have been operating locations that handle *TA-Q-BIN* by relying on our experience and intuition.

What we call “data-driven management” is digitalizing all our information, including those physical resources, and visualizing it. This enables us to make predictions based on data analysis and then utilize that information in the management decision-making process. Under “YAMATO NEXT100,” we are moving forward with Groupwide digital transformation (DX) with the aim of combining the physical and digital domains to create new services and customer experiences, as well as generating future innovations.

Digital Twin: The Key to Predicting the Future

We are focusing on building a digital twin to optimally allocate management resources and create new services by predicting the future. “Digital twin” refers to re-creating the real-world management environment in a virtual space through digital technology and, through this, we will enable the simulation of all future events. We will progress with the construction of a digital twin in three stages.

■ Level 1: Data-First (by April 2021)

In the current stage, “Data-First,” we will achieve the digitalization of the Group’s physical resources, which is the

first step toward data-driven management. Accumulating and analyzing information on management resources, for which data collection has been insufficient, and building the foundation for a digital twin enables us to increase the number of points of contact related to transportation and delivery, such as *TA-Q-BIN* centers, terminals, and vehicle movements, and understand the movement of freight in real time. Additionally, we are promoting the development of a Groupwide shared digital platform, the Yamato Digital Platform (YDP).

■ Level 2: Transformation (by 2024)

In the next stage, “Transformation,” we will be able to confirm more detailed, real-time information on the status of transportation and delivery. It will also be possible to make future predictions and understand where and when a parcel is and what time it will be delivered. Through this, I believe it will enable us to offer customers a service where the designated delivery, date, and time can be changed flexibly at the customer’s convenience, even just before delivery. We will also be able to optimally allocate management resources, such as employees and vehicles, by making future predictions. It is important to utilize not only Group resources but also external information, such as traffic conditions, weather, climate, and locations, for highly accurate predictions. In addition, we will consider creating and maintaining 3D maps for introducing transportation that uses drones and robotics.

We aim to create new delivery methods and new customer experiences by combining the abundant physical resources we have cultivated with digital technology.

■ Level 3: Innovation (by 2030)

In the third stage, “Innovation,” we aim to dynamically allocate management resources based on all of our simulations and create completely new customer experiences. For example, I believe that it would be ideal to provide a customer experience where a parcel “appears” in front of customers rather than being “delivered,” where the customer is notified the instant a parcel is shipped by an EC operator, and can change the collection point or delivery time of the parcel at any time according to the customer’s current location and needs.

Achievement of Optimal Cost Structure by Making Future Predictions

While the Yamato Group’s DX has only just begun to move forward, it has already conducted a four-month freight forecast at *TA-Q-BIN* centers and the results are reflected in its business performance for the fiscal year ending March 31, 2021. Our ultimate goal is to be able to calculate the cost of transportation and delivery on a per-parcel basis. Since factors such as truck loading efficiency and the trunk routes and terminals that we use for transportation will change depending on the situation, transportation costs will vary drastically, even though the arrival and departure location and the cost for the customer remain the same. By expanding digital points of contact and advancing future predictions, I believe that it will be possible to select the best routes and make transportation more efficient, thus contributing to achieving an optimal cost structure.

Key Foundations for Data-Driven Management— Countermeasures for Human Resource Development and Information Security

It goes without saying that, during the shift to data-driven management, it is essential to secure and cultivate talented employees who can implement and execute digital strategies. In order to bring digital strategies to the front line, we have already started providing data science training and data analysis tools for employees in our business divisions. In the future, we plan to develop various human resource development systems, such as a system for in-house promotions from business divisions to IT divisions through training and aptitude assessments and for

the creation of opportunities for IT personnel with no business division experience to experience front-line operations.

Furthermore, information security countermeasures are also a key foundation of data-driven management and security countermeasures for personal information and important confidential information of corporate clients are particularly necessary when offering a service. Under the current management system, the Group can only share the minimum amount of customer information necessary for delivering parcels. However, with the aim of increasing value offered to customers, we are using the reform of the Group management system as an opportunity to advance the development of the legal aspects of sharing necessary customer information internally. Also, in terms of technology, we are creating a robust security infrastructure by introducing the latest security technology through our cloud services and striving to establish a system that allows data to be utilized with full security in place.

Creation of New Delivery Methods and Contribution to the Creation of an Enriched Society

The purpose of the Yamato Group’s DX is not simply to improve efficiency through data analysis but to fundamentally reform the entire Group management structure and create future innovations. I understand the flow of goods more than anyone and believe that we can contribute to the creation of an enriched environment by creating new delivery methods and new customer experiences. We will achieve this by offering services that deliver necessary items to customers when they need them and proposing the optimal movement of goods, such as when, where, and what producers and suppliers should create to please society, while making full use of the management resources, knowledge, and data we have cultivated.

Our abundant physical resources are a major strength for Yamato in implementing data-driven management. I am confident that, if we bring digital strategies into management from the front line and the physical and digital domains begin to work in unison, we will definitely produce great results and take the lead in the Japanese logistics industry.

Kyobashi Office

The photo shows the IT Function Division in Kyobashi (Chuo-ku, Tokyo). This is the base of Yamato Holding’s digital strategy promotion. There are approximately 140 employees who carry out data analysis and system development on a daily basis with the aim of promoting data-driven management. Due to the COVID-19 pandemic, we have introduced working from home and our attendance rate is approximately 10%. (As of February 2021)

