



Smart Logistics Service

Making supply chains more efficient by sharing and utilizing logistics/products data across boundaries among companies and industries.

As we enter the Fourth Industrial Revolution, we are looking forward to manufacturers, logistics companies, and retailers etc. joining hands to utilize logistics/products data across boundaries between individual companies and industries to display even greater synergistic effects, thereby improving the efficiency and productivity of overall supply chains including those inside and outside of Japan.

To achieve this goal, we will build the world's first "logistics/products data platform" (below "PF") to be used to accumulate, analyze, and share data at the same time as we verify its effectiveness and introduce it to society. We will increase the efficiency of supply chains by logistics and products data through the use of new technologies (IoT, BD, AI etc.).



Program Director

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Profile

Yorimasa Tanaka joined Yamato System Co., Ltd. in 1981. He was jointly appointed as Senior Manager for IT strategy of Yamato Holdings Co., Ltd. and Head of the Information System Department of Yamato Transport Co., Ltd. in 2011. He appointed to his present position in 2016.

Research and Development Topics

(A) Building a logistics/products data platform

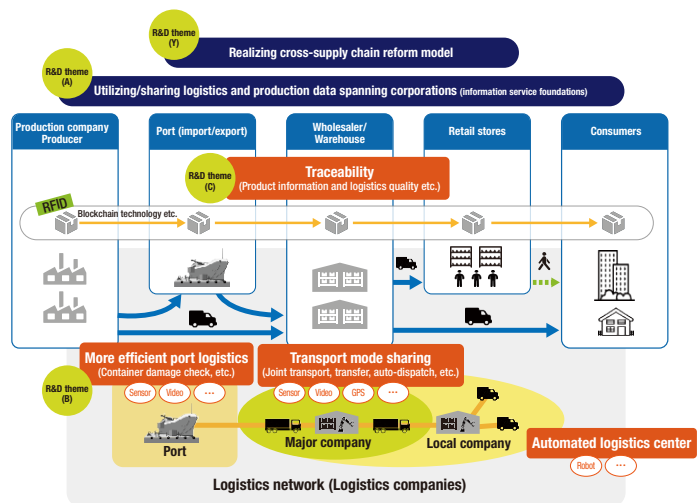
By 2020, we will develop a platform that ensures a high level of security using blockchain and similar technologies, and processing technologies which permit processing and analysis suited to the purposes of high-volume logistics and products data.

(B) Development of "logistics data visualization" technology

By 2020, we will [1] develop cargo movement information visualizing technology, 3D sensing technology and container damage checking technology based on image analysis etc., and [2] develop automatic acquirement technology for packaging and cargo information and loading optimization analysis technology for logistics centers.

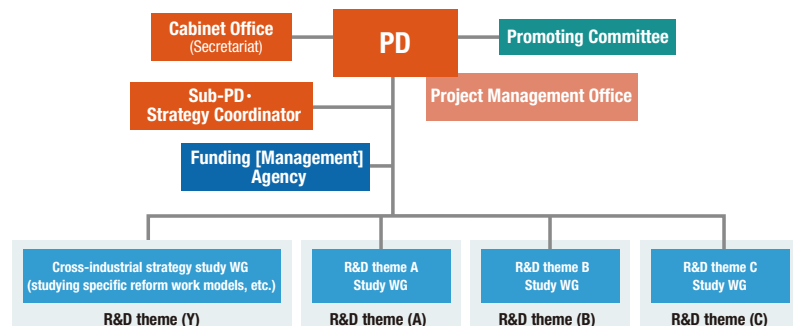
(C) Development of "products data visualization" technology

By 2022, we will [1] develop 80-bit or higher RFID tags at unit price less than 1 yen, [2] develop high precision readers, [3] develop a method of rapidly applying them to products, and [4] obtain international standard certification.



Implementation Structure

Grants to the National Institute of Maritime, Port and Aviation Technology will be used to implement the system on the right. The National Institute of Maritime, Port and Aviation Technology will assist the Program Director (PD) and the Promoting Committee (assistance with R&D progress management and clerical support, etc.). Persons in charge of R&D themes A, B, and C will be publicly recruited. The research system will be flexibly modified in response to progress in researches and the results of technology surveys and to changes in society.



Exit Strategies

✔ Sharing the logistics/products data platform with society

The aim is to have the PF operated by a jointly funded company etc. which ensures impartiality for all companies and at the same time, to promote the construction of a business model based on utilizing the PF.

✔ Sharing the logistics data visualization technology with society

In order that the technologies which will have been developed can be used by all companies which form a supply chain including medium and small companies, the introduction of the successful results to society will be promoted by strategically using patents etc.

✔ Sharing products data visualization technology with society

The practical use and introduction throughout society of next generation electronic tags using private investment will be promoted by conducting R&D with technology users and having research participants, domestic printing companies and existing RFID reader manufacturers establish services and invest in and merchandise equipment to manufacture new products using the technology that has been developed.

R&D Outcomes

Public outcomes

Achieving [1] to [3] below and promoting the creation of businesses using the PF linking the public and private sectors will boost truck load efficiency by 20%, cut manpower needs of logistics warehouses and retail stores, enhance traceability, and lower food product losses and reduce redelivery through optimized production and storage, thereby achieving the overall improvement of productivity of supply chains. This will resolve the public problem of restrictions on total volume of delivery which contributed to an increase of the EC share* (5.8% (FY2017) → 10% (FY2022)).

- [1] The aim is to develop the PF which will achieve not only a more than 20% increase of labor productivity in the logistics industry but also labor productivity of the manufacturing and retail industries, to verify its usefulness through large-scale proving tests conducted with the participation of many concerned companies and at the same time, to make it available throughout society by building a post-SIP service operation system.
- [2] The aim is to create highly systematic End-to-End logistics by developing transport mode sharing and logistics center automation technologies and ensuring that all companies on a supply chain including medium and small companies can use these new technologies.
- [3] Regarding next generation electronic tags, the aim is to develop related technologies which will lower their price below 1 yen and permit high speed application to packages and supply them to user companies, to achieve improvements in the overall productivity of supply chains through visualization of product information in freight units.

*EC share: percentage of all merchandise transactions which are electronic transactions.

Industrial outcomes

Achieving simpler instantaneous sharing of information among concerned parties through the logistics/products data platform will realize “strong logistics” that can sustainably support the economic growth of Japan and the lives of its people by responding to increasingly diverse and more sophisticated logistics needs as the working population falls.

Technological outcomes

The aim is to establish supply chain data acquisition technology by developing next-generation electronic tags and establishing technology to share the data obtained among concerned parties.

And ways for businesses providing data to control the range of parties sharing the data so they can share it with confidence will be established by using blockchain and related technologies.