

**2017 Business Briefing  
(Enterprise & Solutions Segment)**

December 4, 2017  
NTT DATA Corporation  
Director and Executive Vice President  
Head of Enterprise & Solutions Segment and China & APAC Segment  
Shigeki Yamaguchi

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(Description abbreviated)

## Profile



**Shigeki  
Yamaguchi**

April 1984: Joined NIPPON TELEGRAPH AND TELEPHONE PUBLIC CORPORATION

- Engaged in development of middle software for shared scientific computation systems
- Project leader of system development for distribution industry, etc.

July 2010: Head of Enterprise Business Consulting & Marketing Sector

- Engaged in establishment of NTT Data Business Consulting Corporation, a predecessor of QUNIE CORPORATION, a consulting firm of NTT DATA Group, and concurrently served as Director and Executive Vice President

January 2013: Representative Director and Senior Managing Director of JSOL Corporation

- Engaged in expansion of SAP business

June 2013: Senior Vice President, Head of Enterprise Business Consulting & Marketing Sector

- In charge of consulting and ERP (BizI) business

June 2014: Senior Vice President, Head of Third Enterprise Sector of NTT DATA

June 2016: Executive Vice President, Head of IT Services & Payments Services Sector of NTT DATA

- In charge of payment business, distribution and service industries

June 2017: Director and Executive Vice President in charge of Enterprise & Solutions Segment and China and APAC Segment

Field of specialty:

- Digital commerce, payment and consulting

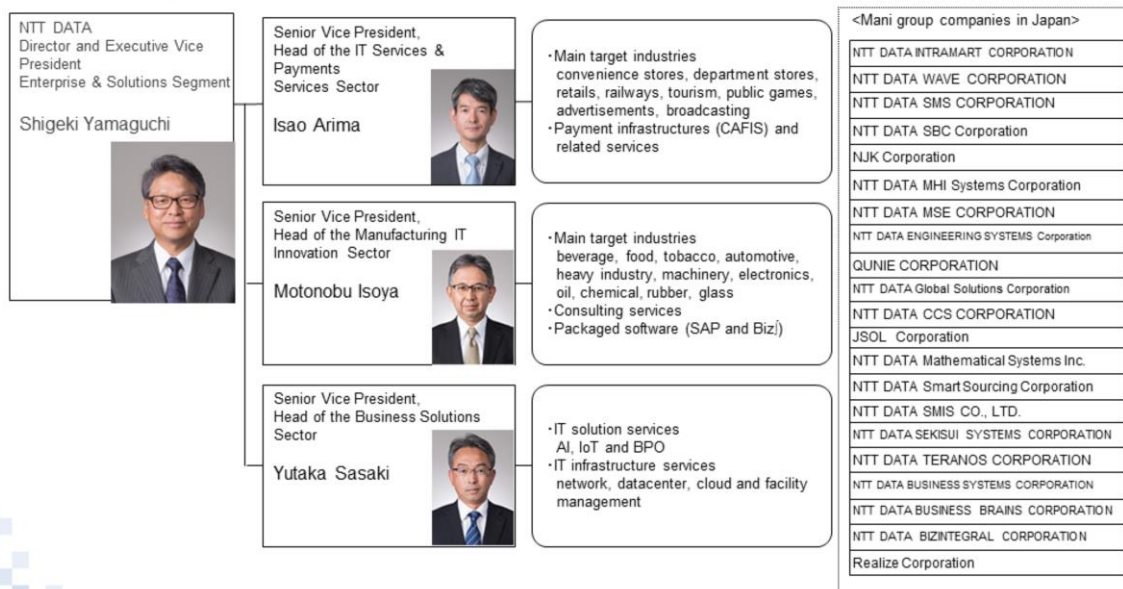
First of all, please allow me to introduce myself briefly.

My name is Shigeki Yamaguchi, and I am in charge of the Enterprise & Solutions Segment. After joining NTT DATA Corporation (“NTT DATA”) in 1984, I engaged in development and consulting duties before being sent on loan, following which I served, in the Third Enterprise Sector, as head of a unit responsible for distribution and services industries. Subsequently, the Company conducted an organizational realignment, transferring the payment field, composed mainly of CAFIS, from the Financial Segment to the Enterprise & Solutions Segment. I was then in charge of the IT Services & Payments Services Sector.

Starting from June 2017, as officer responsible for the Enterprise & Solutions Segment, I have been in charge of the manufacturing industry and solutions fields and network and cloud services as well as China & APAC Segment.

## Organization

The Enterprise & Solutions Segment engages in IT services that support business activities in manufacturing, distribution and service industries as well as digital services and IT infrastructure business using cutting-edge technologies.



The Enterprise & Solutions Segment consists of three sectors.

The first one is the IT Services & Payments Services Sector, which is responsible mainly for distribution and services industries.

The second one is the Manufacturing IT Innovation Sector, responsible mainly for manufacturing industry, etc.

The third one is the Business Solutions Sector, which pursues operations mainly for IT networks, data centers and cloud services as well as new technologies comprising AI and the IoT.

The Enterprise & Solutions Segment is involved in many group companies.

## INDEX

1. Business Outline
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3. Growth Strategy and Initiative Cases

### Notes

\* Descriptions and predictions in this document are based on the current information and may change due to domestic and international economy, trend in the information service industry, development of new services and technologies. Therefore, our Group will not guarantee its certainty.

\* Services and products described in this document are a registered trademark or trademark of NTT DATA CORPORATION and each of other companies.

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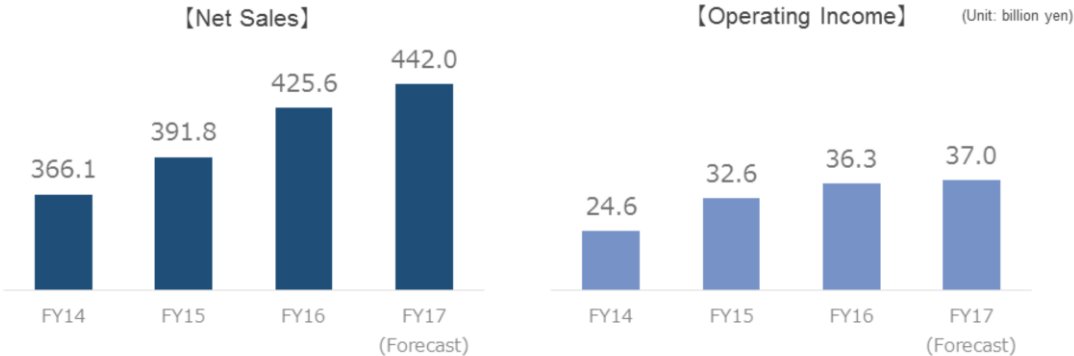
# Business Outline

(Description abbreviated)

# Business Outline: Segment Mission and Performance Trend

## Enterprise & Solutions Segment

Providing high-value-added IT services that support business activities in manufacturing, logistics and retail, and service industries as well as credit card and other payment services and platform solutions linked to each industry's IT services



IT service vendor ranking in the enterprise market (Japan): **4th spot with a share of 5.2%\***

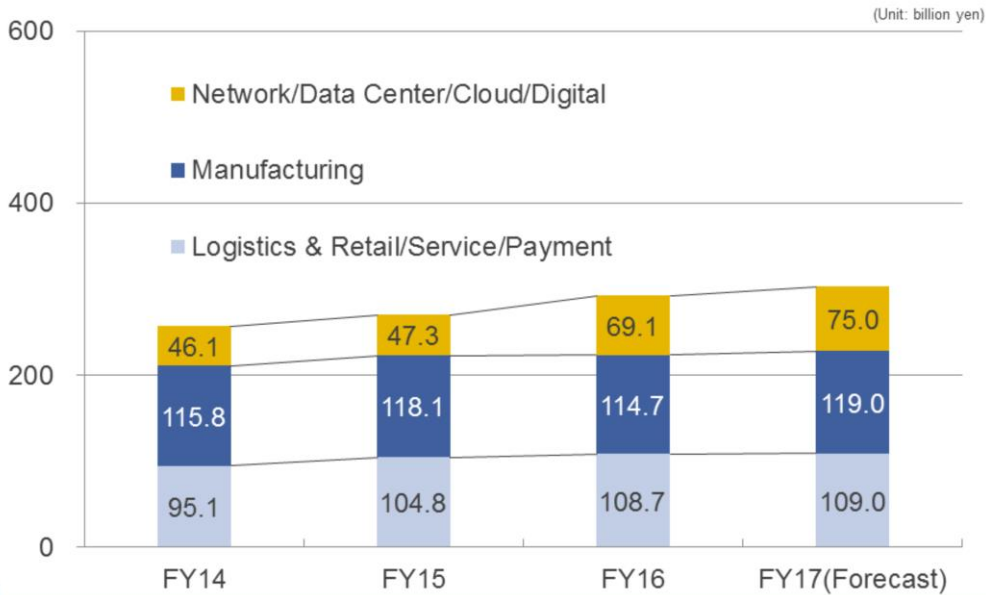
\* Gartner "Market Share: IT Services, 2016" 19 April 2017  
Enterprise=Transportation, Utilities, Wholesale Trade, Communications, Media & Services, Manufacturing & Natural Resources, Retail  
Based on vendor revenue in 2016 IT service market  
All statements in this report attributable to Gartner represent NTT DATA Corporation's interpretation of data, research opinion or viewpoints published as part of a syndicated subscription service by Gartner, Inc., and have not been reviewed by Gartner. Each Gartner publication speaks as of its original publication date (and not as of the date of this presentation/report). The opinions expressed in Gartner publications are not representations of fact, and are subject to change without notice.

Let me brief you on our business outline.

The Enterprise & Solutions Segment pursues operations to provide (i) high value-added IT services that support business activities such as manufacturing, distribution and service industries, (ii) credit card and other payment services in collaboration with the IT services of different segments and (iii) platform solutions. According to market information from a research company, NTT DATA is ranked fourth of IT service vendors in the enterprise market, and holds a market share of 5.2%.

# Business Outline: Breakdown of Net Sales (for Outside Clients)

Net sales in each business field have been rising, and further growth is also expected in the future.



(Description abbreviated)

## 2

# Market Environment

(Description abbreviated)



## Market Environment: Overview

Investments in digital domains have been growing in all business fields. We will capture this opportunity to pursue business development.

	Opportunities	Threats
Logistics & Retail / Payment / Other Service Industries	<ul style="list-style-type: none"> <li>• Demands for IT investment aimed at expanding sales through enhanced touchpoints using digital technologies</li> <li>• Expanded settlement methods and needs for inbound tourism support functionality</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease of NTT DATA market share due to rapid changes in distribution and retail business models</li> <li>• Entry of new players such as Apple Inc. in the settlement market</li> </ul>
Manufacturing Industry	<ul style="list-style-type: none"> <li>• Needs for core system, ERP reconstruction, and corporate group integration</li> <li>• Comprehensive supply chain visualization, rationalization, and sophistication aimed at enhancing global competitiveness</li> <li>• IT investment in digital domains using IoT and AI</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced IT investment due to worsening management environment as a result of intensified global competition</li> </ul>
Network / Data Center / Cloud / Digital Services	<ul style="list-style-type: none"> <li>• Demands for global base linking networks</li> <li>• Increasing needs of hybrid/multi-cloud</li> <li>• Business innovation needs using digital technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Network commoditization</li> <li>• Intensified competition among cloud providers</li> </ul>

I would like to talk about the situation of the clients of the Enterprise & Solutions Segment.

First of all, in the distribution, payment and other service industry, there is strong IT investment demand aimed at expanding sales through enhanced touchpoints using “digital.” Among opportunities we identify are expanded settlement methods and needs for inbound tourism support functionality. While non-cash settlements in Japan now account for around 19 percent of total payments in the country, the Japanese government has announced the policy of raising the ratio to 40 percent by 2027. In countries such as the U.S. and the U.K., non-cash settlements represent around 50 percent of total payments, pointing to extremely strong needs for the non-cash settlements.

However, in a departure from existing settlement formats, a new trend is emerging, which needs to be addressed. Among threats for NTT DATA is a scenario of potentially losing market share due to various changes in distribution and retail business models, unless we deal with such changes properly. The payment field mentioned earlier has seen a variety of moves such as Apple Pay as well as Alipay and WeChat in China. Thus, it is important to cater for such new settlement service players, including those for smartphone-based settlements.

As for the manufacturing industry, core system, ERP reconstruction, corporate group integration needs are identified as opportunities. When pondering its supply chain, a manufacturing industry company must consider not only Japan but also global areas, particularly the APAC region. We think demand from this field is high. Digital domains using IoT and AI will likely have a significant impact on the manufacturing industry, going forward. Hence, the threat is the other side of the coin, namely, a scenario of IT investment of clients being reduced due to a worsening management environment in line with intensified global competition.

As regards network services, data center services, cloud services, and digital services, enterprises have demands for global bases linking networks. Among types of needs are hybrid/multi-cloud needs, in addition to single-cloud needs. We also think new needs will emerge for digital services consisting of those mainly for AI and IoT.



## Growth Strategy and Initiative Cases

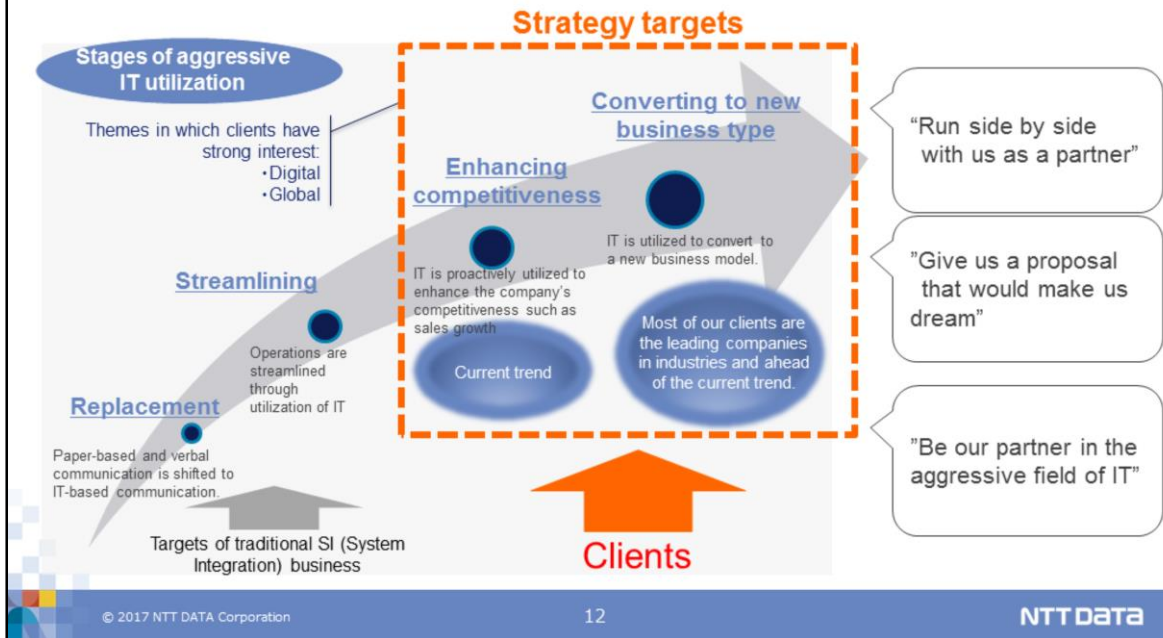
I would like to brief you on the Enterprise & Solutions Segment's strategy amid the changing environment discussed just now.



First of all, let me highlight the vision of the Enterprise & Solutions.

## Client Expectations

Many of our clients are at their “Enhancing competitiveness” or “Converting to new business type” stage and expect us to provide support for their business model changes as a strategic partner.



As pointed out earlier, client expectations for IT utilization are changing. To date, the main theme has been work streamlining through IT utilization. IT has come to be proactively utilized for enhancing the company's competitiveness such as sales growth. Experts are talking a lot about a move for companies to utilize IT further from now on to convert to a new business model. For example, a business line engaged so far in anticipatory production is required to take the approach of manufacturing and selling goods such as custom-made products designed for individual clients.

Clients are thus working to convert to a new business model.

A background image showing two people in business attire shaking hands, symbolizing a partnership or agreement. The image is slightly blurred and has a dark overlay where the text is placed.

## **Trusted Digital Partner making digital transformation “successful”**

- **A full range of professional services from consulting to design/development, service delivery, and operation**
- **Not only in Japan but also in China and APAC**

In such environment, the Enterprise & Solutions Segment’s vision is to be the Trusted Digital Partner that obtains client trust. Our task is to guide the client to success by helping it transform its operations through digitalization. Our strength lies in the fact that we are able to provide a full range of professional services from consulting to design/development to service delivery to operation.

Moreover, we want to support clients not only in Japan but also in China and APAC.

While services are assumed to run seamlessly from consulting to design, each distribution industry client needs the service provider to consider how to transform its operations with “Aggressive IT.” The Company provides cooperation starting from that stage. In an easily understandable case, for instance, in electronic commerce (EC), service launch is not equivalent to service conclusion. The service provider is required to address questions such as: what should be done to enable the service to be used more after the service launch; what kind of human interface is desired; and what type of product search format should be employed to cause the product to sell better. For this reason, it is important to provide a full range of professional services up to operation.

We particularly think it is insufficient to provide only consulting services. Since aggressive IT aims at expanding client sales, it must enable operations properly and promptly. Therefore, we need to provide the full range of knowhow accumulated to date to enable the core system to run stably and the digital components of new aggressive IT now. We intend to make the delivery of such services one of our strengths.



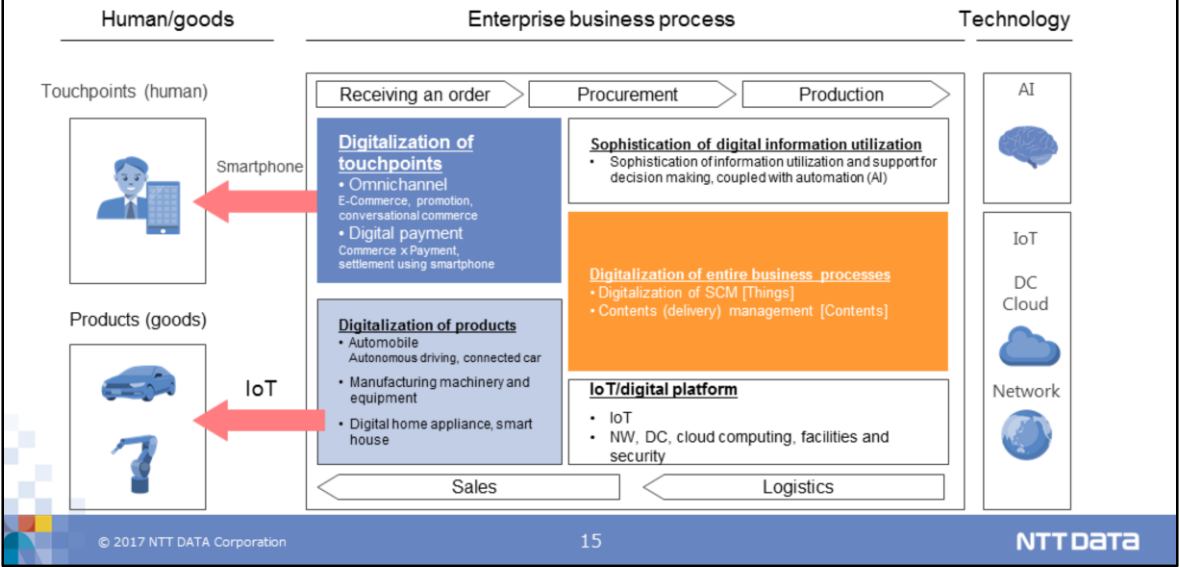
(Description abbreviated)



# Approach to Digitalization

Development of existing technologies and realization of new technologies will lead to a society highly advanced in the “digitalization of touchpoints (human),” “digitalization of products (goods),” and “digitalization of entire business processes.”

Instead of thinking on the basis of a single technology, we will employ an approach designed for values provided to end users and nature of business of client companies. (Value Create Technology)



I would like to talk about our approach to digitalization. While people often discuss the prospect of providing various kinds of smartphone-based services recently, the digitalization of touchpoints is being watched closely. Having a good track record in this field, the Company is working on it in earnest.

I will illustrate product digitalization mainly for the manufacturing industry later. The connected car initiative and IoT-based society will develop, coupled with the digitalization of touchpoints as well as products. However, such front office duties will not be important alone. As discussed earlier, in aggressive IT and business model conversion-related IT efforts, altering front office duties only will not allow business processes to run smoothly unless the entire supply chain is revised.

For example, you can easily convert a business model of anticipatory mass-production and mass-sales into a business model of order-receipt-based production using a smartphone. In addition, you must convert the production format and/or the core system structure. This is an area for which the Company has accumulated knowhow to date. To deal with the situation will require you to handle a large amount of data naturally. Hence, it is necessary to address the question of how to raise human analysis skills using AI and use AI to help improve such skills maximally.

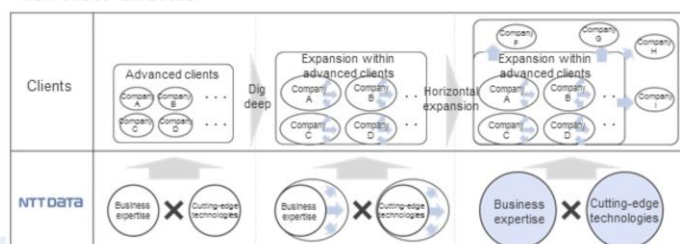
## Sense of Direction for Strategy

### Create business value hand-in-hand with dynamic clients

- Support clients to “realize” business value creation by using digital service through working hand-in-hand with clients who are positive towards digital transformation
- Foster human resources capable of co-creating businesses with clients

### Hone our “strengths” and expand them horizontally (repeat)

- Hone our “strengths” by servicing advanced clients and expand the “strengths” horizontally for new clients



- ✓ Business expertise  
SPA, logistics and retail,  
tourism, automobile,  
machinery, foods/beverage, etc.
- ✓ Cutting-edge technologies  
Digital commerce  
payment, AI/analytics  
IoT platform, etc.

So far, I have briefed you on the pursuit of business as a Trusted Digital Partner, and now I would like to outline how to put it into action.

First of all, it is important to create business values hand-in-hand with dynamic clients, on which we are working in a focused manner. The term “dynamic clients” refers to clients seeking to transform their business through digitalization. We intend to consider the business together and further accumulate new knowhow in the field for creating and running business systems. To do so, we need human resources who are capable of co-creating business with clients and considering with them what services to deliver, in addition to creating the systems for them.

With respect to human resources, we began to see the need for consulting skills 10 years ago and established in the enterprise segment a consulting company QUNIE CORPORATION (“QUNIE”), which is currently staffed by around 500 employees. Approximately 150 consultants serve a business unit called the Consulting & Marketing Sector in this segment. The Company has put in place organizations and platforms in which upstream and downstream operations can be performed together.

We will also refine our “strengths” and expand them horizontally to work with innovative and dynamic clients, thus adding and expanding various new technologies. One area in which we are building the strength is EC as stated earlier. In the beginning, EC went on using PC in the main, but new technology-based smartphones are nowadays taken for granted with voice-based EC being envisaged for the future. In this manner, the Company will continue to deliver transformation into something new by using fresh technologies, based on the knowhow it has accumulated. However, we are unable to pursue activities in a field that is totally unrelated to the Company’s business lines. Therefore, our current strategy is to grow operations on the basis of our existing strengths, and EC, in our view, is a field in which we have achieved significant success. In the coming years, we intend to take a similar approach to pursue activities properly in the manufacturing industry field as well.





(Description abbreviated)

## Focused Fields

The Enterprise & Solutions Segment, having specified four focused fields, is enhancing and expanding efforts to realize them.

**[Focused Field 1]**  
Enhance and expand the “Digital Commerce × Payment” initiative

**[Focused Field 2]**  
Commercialize AI and IoT projects

**[Focused Field 3]**  
Expand the Global Operation Platform

**[Focused Field 4]**  
Platform that supports digital business

Let me brief you on use cases in focused fields. The Enterprise & Solutions Segment has specified four focused fields.

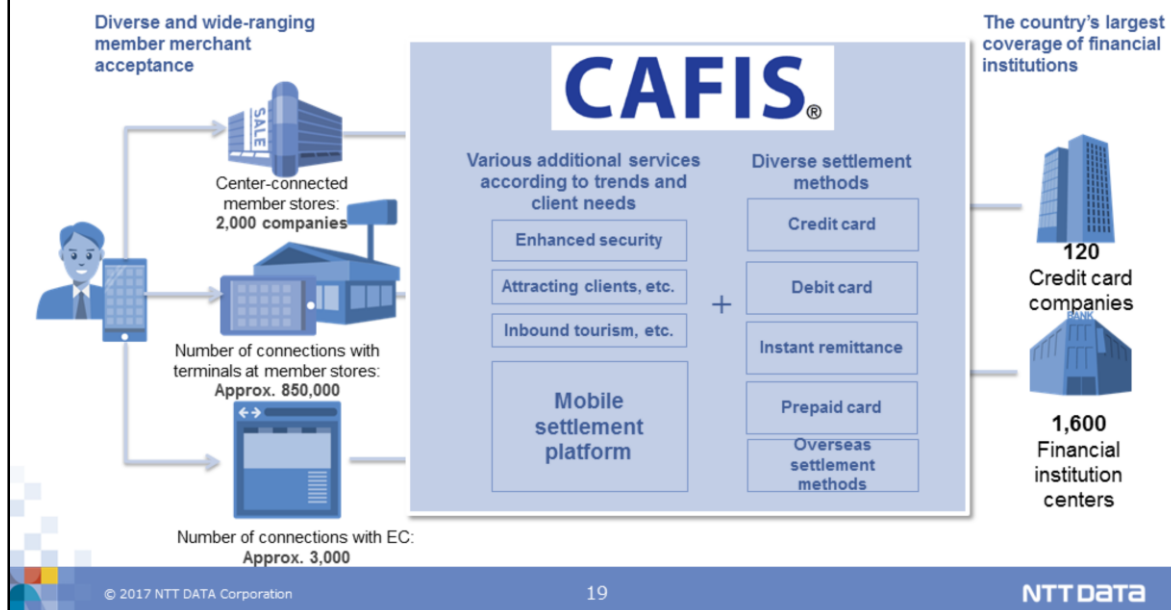
The first focused field is the Digital Commerce × Payment domain. While payment services mainly from financial institutions and credit card companies will evidently keep growing further, I note that distribution industry and services industry players that are our clients in this segment are now in the process of entering the payment field one after another. As I will explain later, services combining a means of payment and transaction using a smartphone and a means of payment and promotion such as a recommendation function will be important in the future. Concerning this initiative and AI and IoT commercialization efforts, I will later illustrate instances in the manufacturing industry.

In the manufacturing industry, each player is required to have a SAP-centric supply chain management structure and a business management structure as a Global Operation Platform that takes into account not only Japan but also China and APAC. We are also working on this as a focused field. As for Asia, we have delivered SAP-related business results to around 20 Japanese-owned companies in operation in the region. In Japan, we are interacting with a greater number of clients.

Besides, in the digital field, players in the future will require highly secure cloud and network services. We are working on a platform of such significance.

## Smartphone Settlement (CAFIS)

By leveraging the superiority of Credit And Finance Information System (CAFIS), a system connected with almost all financial institutions and member stores in Japan, we will expand smartphone settlement services in cooperation with players such as financial institutions and distribution industry that have various consumer touchpoints.

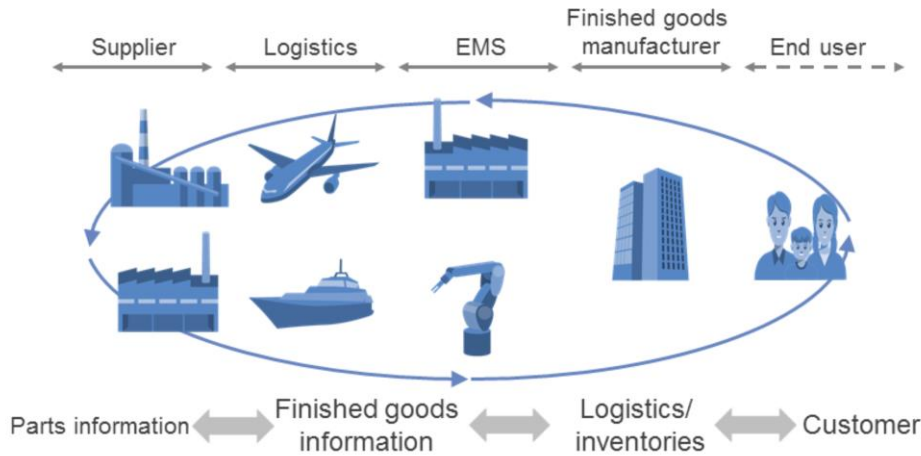


Let me highlight a smartphone settlement initiative. You probably know a settlement network scheme called the Credit And Finance Information System (CAFIS), which is linked to credit card companies, nearly all financial institutions and some 850,000 member stores. While this scheme is currently chiefly for credit cards, we initiated a proof of concept (PoC) process for smartphone settlements in autumn 2017 in an effort to further accelerate non-cash settlements using this network.

With respect to smartphone settlements, we attach importance to the fact that, unless the user finds the service convenient, not much convenience is provided by replacing a credit card with a smartphone. Therefore, we are working together to devise a preferable service mix. However, given that various players will seemingly enter the smartphone settlement market, we wish to see distribution industry and services industry staff members and payment staff members in a given sector collaborate with each other to acquire new domains

## IoT Platform

By connecting supply chain plan and result information between enterprises, we enable multiple companies to achieve supply chain reform. We are working on commercialization efforts through concept formulation to empirical experiments as a partner.



Generate value by building an eco-system with about 100 suppliers and enabling "connection" via digital information

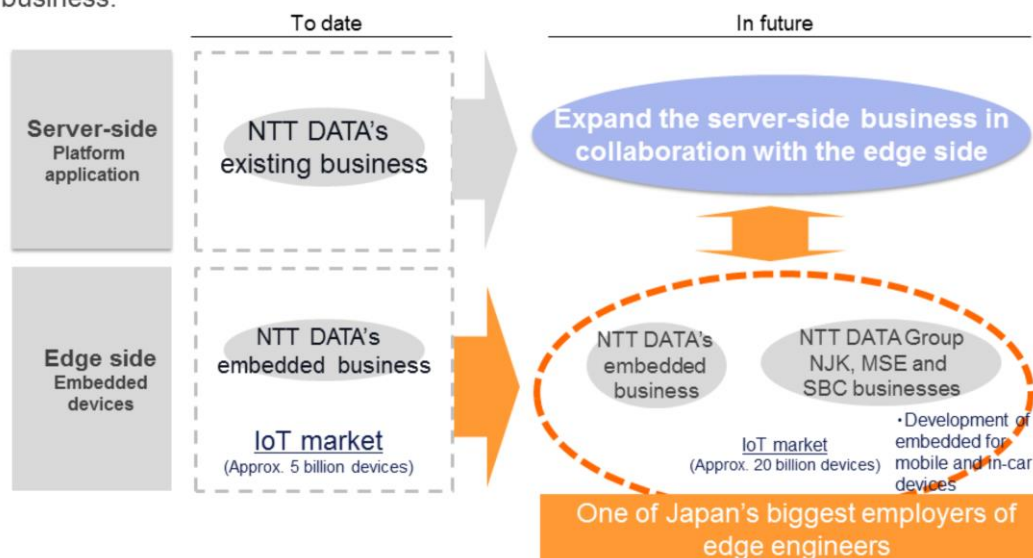
Shown on this slide is an initiative between the Company and a leading electronics maker. Our staff members and QUNIE consultants worked with the client for six months to create the concept for the platform. The eco-system for NTT DATA and 100 suppliers is just about to come into operation.

This is the structure for using the IoT to bring about the sharing of production and inventory information between plants and between companies. We think manufacturing industry players should focus on this kind of field in the future.

Some of you probably suspect that NTT DATA is not staffed by professionals well-versed in the manufacturing industry. Consulting company QUNIE, being served by around 500 consultants as mentioned earlier, has been providing consulting services to manufacturing industry players since around 10 years ago and is a firm that is good at servicing manufactures.

## Enhancement of Edge Side Development Skills

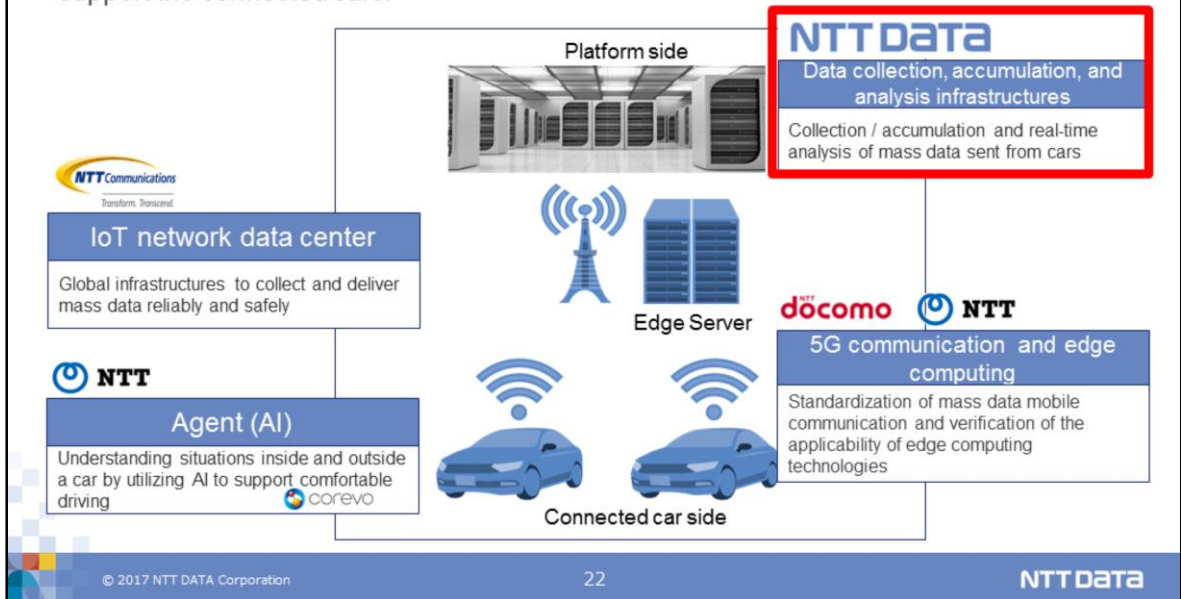
We are enhancing our embedded software area for in-car devices, home appliances and mobile devices. The NTT DATA Group, being one of Japan's biggest employers of edge engineers (over 1,500 persons), is expanding operations in collaboration with the server-side business.



Currently, manufacturing industry players are also required to tackle a field called edge development and incorporation software, for which the NTT DATA Group now has around 1,600 SEs serving chiefly its group companies. Around 1,200 to 1,300 of these SEs are employed by NTT DATA MSE Corporation, a former subsidiary of Panasonic Corporation, and some 300 of them by NTT DATA SBC Corporation, a former Sharp Corporation incorporation—software company in which NTT DATA holds a majority of shares. Our incorporation software team is staffed by a total of 1,500 to 1,600 or so, including staff members of subsidiary NJK Corporation. We have been preparing this team, coupled with consulting company QUNIE, for the purpose of acquiring new manufacturing industry clients in the future.

## Connected Car

Partnership between Toyota Motor Corporation and NTT Group in the connected car field. Aiming to realize a sustainable smart mobility society from a global perspective, the Company is engaged in research designed to create ICT platform technologies that will support the connected cars.

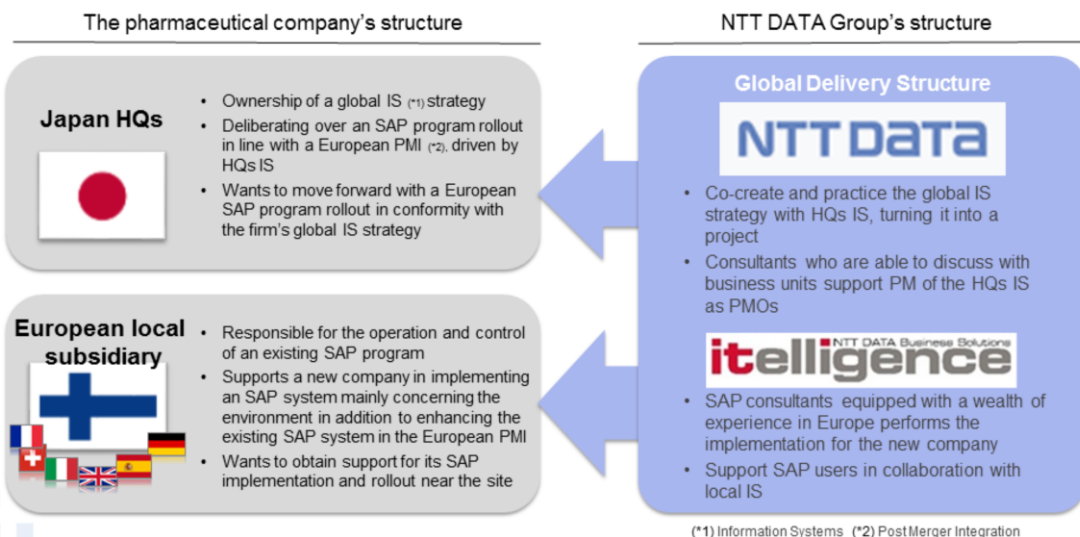


I would like to highlight a “connected car” project, in which Toyota Motor Corporation and the NTT Group are engaged in joint research in the connected car, for which a press release stating client names was issued. In this project, NTT DATA is tasked with collecting and analyzing a variety of information sent from cars. In the connected car space, cars are connected to various things via networks and car condition information is collected by the data center. We are working on this space in the belief that it will be the next major challenge for the manufacturing industry.

Regarding automobiles for our global field, we service clients such as BMW and Daimler mainly in Germany. We intend to bolster our automobile-related business in the coming years while sharing information with our overseas bases.

## SAP (a pharmaceutical company)

As a consultant, NTT DATA supports and co-creates the client's global information system strategy. We are building a global delivery structure in collaboration with itelligence Denmark, a firm offering optimal solutions for cross-border project needs.



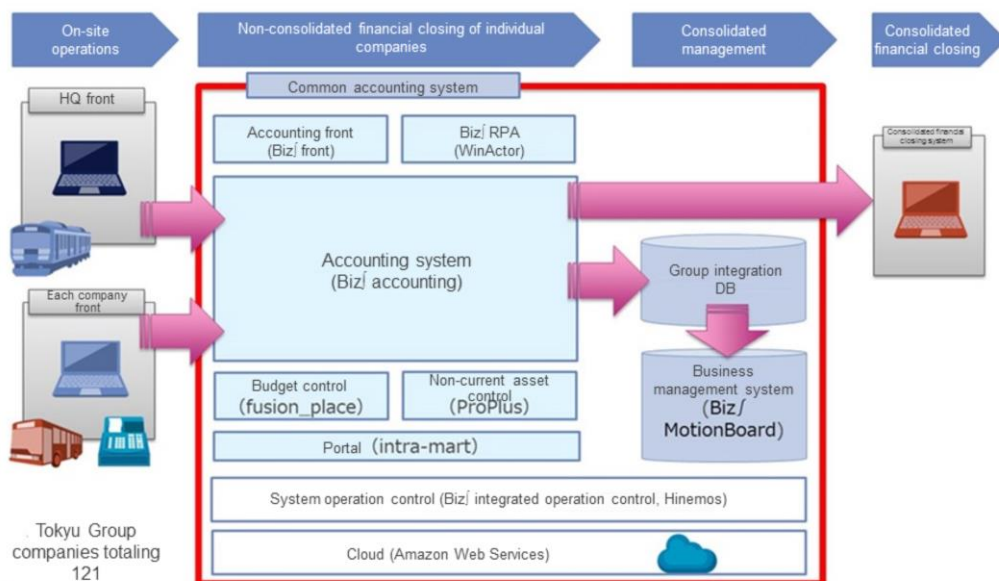
I said earlier that we must work on SAP programs not only in Japan but also abroad in a centralized manner. This slide outlines an unnamed leading pharmaceutical company's project in which a SAP program is intended to be implemented in an integrated manner not only on the Japan side but also at its local subsidiaries in Europe. In this project, NTT DATA is charged to service the Japan side, and the staff members of group company itelligence are tasked to service the European side.

In relation to SAP programs in Japan, group company NTT DATA Global Solutions Corporation is equipped with about 400 SAP consultants. JSOL Corporation, another group company, is considered as Japan's strongest SAP program player for pharmaceutical firms, and has a good track record in SAP programs.



## Common Group Accounting System (BizJ)

We plan to deploy and implement a common accounting system in each of the total of 121 Tokyu Group companies including Tokyu Corporation by FY2020.



One ongoing trend is that companies implement a unified system on a group-wide basis, instead of implementing a system individually, and they run the unified system in the group's cloud environment.

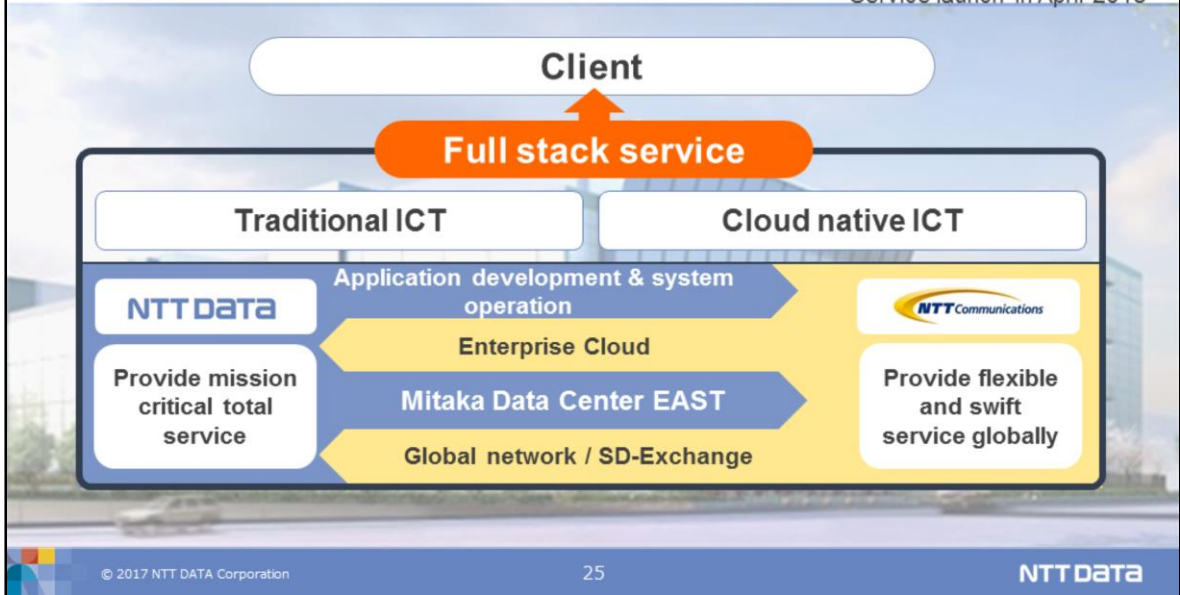
This slide highlights a project at a leading railway company, in which a common system is operated for 121 group companies on a cloud computing basis. This is a typical type of relevant project. NTT DATA is equipped with BizJ, an ERP package unique to the organization as something separate from SAP systems. This package provided solutions so far to clients that: i) needed a common accounting system while not requiring global deployment; ii) were smaller than those for which a SAP program was implemented.



## NTT DATA Mitaka Data Center EAST

NTT DATA works with NTT Communications Corporation to provide an ICT environment on a full stack basis. In collaborating with each other, both companies deliver enterprise systems (traditional ICT) and digital business service (cloud native ICT) on a one-stop basis, thus enabling clients to attain a digital transformation.

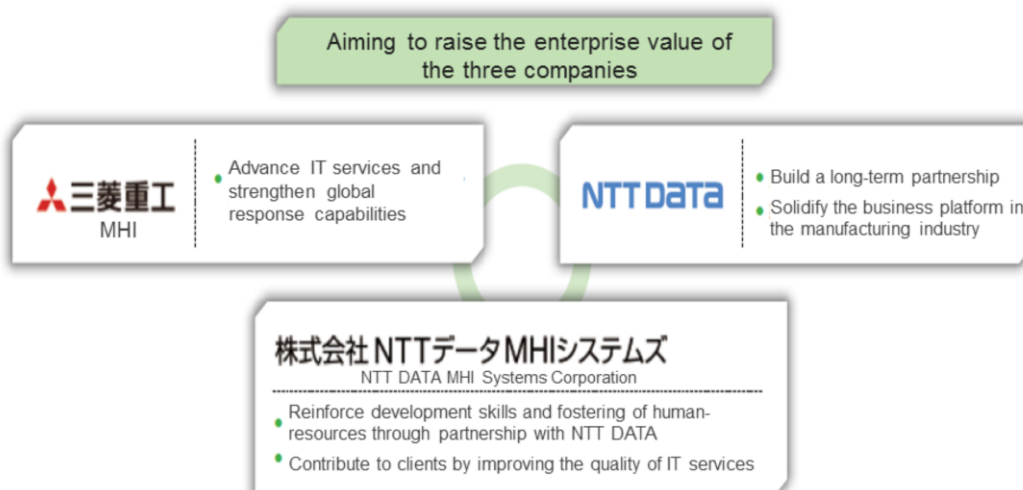
Service launch in April 2018



Mitaka Data Center project is run by NTT DATA in collaboration with NTT Communications Corporation. Clients have shown strong demand for data center services. Therefore, we will build a data center in Mitaka-shi, Tokyo, Japan before installing there the cloud environment of NTT Communications Corporation, among other collaborative activities. We are engaged in this project with the aim of growing the business to 100 billion yen by 2020 on a cumulative basis.

## Partnership with Mitsubishi Heavy Industries, Ltd. in the Information System Field

NTT DATA established NTT DATA MHI Systems Corporation jointly with Mitsubishi Heavy Industries, Ltd. ("MHI"). The newly-founded company will improve the QCD of IT service and advance its quality for the MHI Group to strengthen ICT in a manner that helps raise the group's business competitiveness.



Lastly, let me highlight a project for NTT DATA MHI Systems Corporation, a firm established on October 1, 2017. It was founded as such through a capital partnership between NTT DATA and an IT system subsidiary of Mitsubishi Heavy Industries, Ltd. ("MHI"). The newly-founded company will first pursue collaboration and enhancement in relation to our methodologies for IT development and project management. This project is now underway under the slogan of "aggressive IT" for the next phase and with the view to helping raise the MHI Group's business competitiveness for the IoT.

This wraps up my briefing on how the Enterprise & Solutions Segment has been pursuing operations.



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