

**FUJITSU FRONTECH GROUP
Environmental Report
2019**



Photo by Takashi Yoshida

Our Environmental Priority Themes

Based on “Fujitsu Frontech Group Environmental Policy”, we pursue the rich, beautiful nature and the sustainable social development, cooperating with society.

We, Fujitsu Frontech Group, decide on “Fujitsu Frontech Group Environmental Policy” based on the trend for global environmental issues around companies such as climate change issue and biodiversity conservation, Fujitsu Group Environmental Policy and Medium- to Long-term Environmental Vision, and establish “Fujitsu Frontech Group Environmental Action Plan” based on the policy, and practice it.

In “Environmental Action Plan Stage VIII” (FY2016 - 2018), we could meet all the targets that we had established. In “Stage IX” (FY2019 - 2020), we established a wide range of activities as new targets, adding “SDGs (Sustainable Development Goals)”, and will take actions.

Fujitsu Frontech Group Environmental Policy

Philosophy

We, Fujitsu Frontech Group, follow Fujitsu Group Environmental Policy and define “eco-friendly business activity” as our basic philosophy. We also promote our efforts for the earth environmental protection, recognizing it as one of the most important business issues.

By utilizing our own technology and creativity as an ICT company, we contribute to the sustainable development of society. In addition, we not only comply with the environmental laws, regulations and standards applicable to our business activities, but also make efforts for the earth environmental protection activities by ourselves.

Moreover, we continuously pursue our advanced efforts by all groups and employees, in order to save a rich nature for future generations.

Principles

1. We reduce the environmental burden at every stage through the life-cycle of our products and service.
2. Through our ICT products and solutions, we help our customers and society to reduce their environmental burden and to enhance their environmental efficiency.
3. We create our top-runner products reinforcing the energy efficiency, resource saving and 3Rs (reduce, reuse and recycle).
4. We always recognize the impact on the environment by our activities, products and service, and comply with the applicable environmental laws, regulations, other requirements and our internal guidelines and so on, in order to fulfill our CSR (Corporate Social Responsibility).
5. Based on the results of the environmental impact assessments related to our activities, products and service, we implement pollution prevention and continuous improvement.
6. We set up and review our environmental objectives and targets on “Our Society” and “Our Business”, and each of us make efforts for the earth environmental protection including measures against climate change and protection of biodiversity with participation of all employees.

Contents	Page No.
Our Environmental Priority Themes	I
Top Message	II
Corporate Profile / Business Structure	III
Actions on SDGs	IV
Material Balance	V
Global Product Business	VI - VII
Solution Service Business	VIII - IX
Environmental Action Plan	X
Topics (FY2016 - 2018)	XI
Social Activities	XII
Environmental Performance / Accounting	XIII
Business Offices / Main Facilities / Group Companies	XIV

Scope

Environmental performance data in this report includes; Headquarters / Tokyo Plant, Niigata Plant, Kumagaya Service Solution Center, Omiya Solution Center, Fujitsu Frontech Systems Limited, etc. The data on Headquarters / Tokyo Plant includes the data of Life Create Limited.

Period

This report discloses mainly the activities in FY2018, and the indicated data are the final actual values. However, this report also includes some data from the period other than FY2018.

Communication (Editorial Postscript)

Not to mention climate change, biodiversity and water resource, recently, as marine pollution affected by waste plastics is closed up, we can see the relevant news to a variety of environmental issues in mass media, almost every day.

And, in the state that society needs companies to take actions on the environmental protection such as ESG (Environment, Society and Governance) and SDGs stronger and stronger in the world, Fujitsu Frontech Group, under its basic philosophy called “eco-friendly business activity”, promotes environmental business. We have issued “Environmental Report 2019”, including the introduction about these activities.

We will keep on issuing this annual report continuously, and will make our efforts to reflect everyone’s opinions and suggestions on creating the more meaningful and more fruitful report.

Issue: November, 2019

Representative of Issue:

Hiromu Kawakami, President and Representative Director

Representative of Planning & Editing:

Tomoki Ando, General Manager of Environmental Management Center

Top Message

We, Fujitsu Frontech Group, promote “sustainability” one by one, thinking of the action on the environmental issues as one of the important business issues, such as SDGs, climate change and biodiversity.

Response to the Environmental Risks

As everyone knows, the environmental issues are represented by climate change and biodiversity or the like. In recent years, the individual environmental issues like “marine plastic waste” have been drawing attentions. To solve them, mainly international organizations, government of each nation, NGO / NPO and business coalition are now taking actions, worldwide.

In addition, as SDGs and ESG indicate, the cross-cutting actions are intensifying, which don't focus on only “Environment”, but grasp individual issues like “Economy”, “Society” and “Governance” all together as “sustainability”.

The aggravation of the environmental issues, such as high temperature, rising of sea level, contamination of land or water, and depletion of natural resources, has serious risks that we won't be able to run business continuously any longer, and that we, human beings, won't be able even to live, in the end.

In terms of the environmental compliance, for example, rules of chemically hazardous products like “RoHS” and “REACH”, Japanese laws related to climate change like “Act on Rationalization of Energy Use” and “Freon Control Act”, and the laws related to soil contamination like “Soil Contamination Countermeasures Act” and “Waste Management and Public Cleansing Law” have been being revised and reinforced. Thus, the impacts on our business due to violation of these laws are large risks, as well.

And also, it can be a risk in a way that many stakeholders now evaluate each company, making much of the degree of actions on the environment as one of their criterion, as GPIF (Government Pension Investment Fund) has recently declared its positive policy about ESG investment.

We, who are running business thanks to great nature, must be willing to take actions, thinking of the environment as one of the important business issues.

Our Actions on the Environment

First of all, Fujitsu Group, our upper organization, now takes a variety of measures such as the contribution to achieving SDGs, the promotion of a medium- to long-term environmental vision called “FUJITSU Climate and Energy Vision” to let de-carbonated society come true, and the actions on the issue of the “marine plastic waste”.

And, we, Fujitsu Frontech Group, keeping step with measures of Fujitsu Group, also take original actions, based on our human resources, technology, know-how, and characteristics of each business site and so on.

In “Fujitsu Frontech Group Environmental Action Plan Stage VIII” from FY2016 to FY2018, we took actions on “Mitigation of environmental impacts by developing and delivering of eco-friendly products and environmental contribution solutions”, “Reduction of GHG emissions and waste generations” and “Social activities as Corporate Citizenship”, and finally we have achieved all of them.

In next “Stage IX” from FY2019 to FY2020, we made action plans which took “Stage VIII” over and deepened its contents, adding a new action plan related to SDGs, and we have just started them.

Furthermore, in purpose of disclosing a lot of information on our own actions on ESG, we established “Sustainability Website” within our official website. We are going to keep updating and extending the relevant information on the website, whenever necessary.

On the basis of these actions, we will drive our “sustainability” more and more, under our basic philosophy called “Environmental friendly business”.



Hiromu Kawakami
(President and Representative Director)

Corporate Profile

- Name

FUJITSU FRONTECH Limited

- Established

November 9, 1940

- Capital

8,457 million JPY (as of March 31, 2019)

- Settlement Term

March 31

- Representative

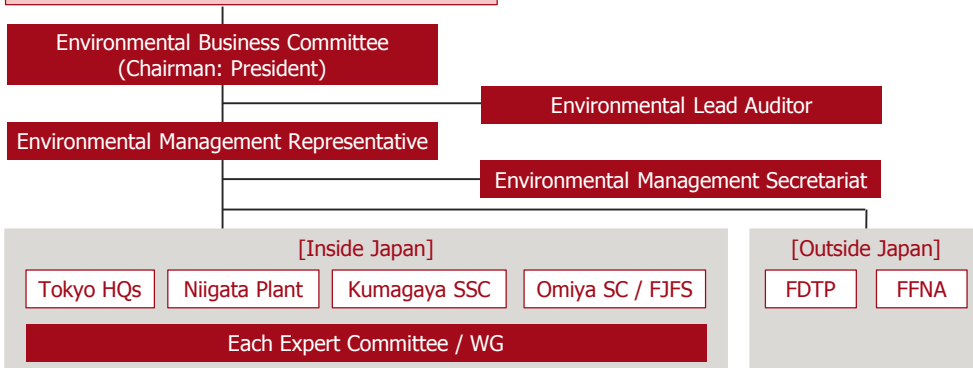
Hirumu Kawakami,
President and Representative Director

- ISO14001:2015

Certificate No.: EC98J2005-D050

- Environmental Organization Chart

Fujitsu Group Worldwide Integrated Certification



Kumagaya SSC: Kumagaya Service Solution Center
Omiya SC : Omiya Solution Center
FJFS : FUJITSU FRONTECH SYSTEMS LIMITED

FDTP: FUJITSU DIE-TECH CORPORATION OF THE PHILIPPINES
FFNA: Fujitsu Frontech North America, Inc.

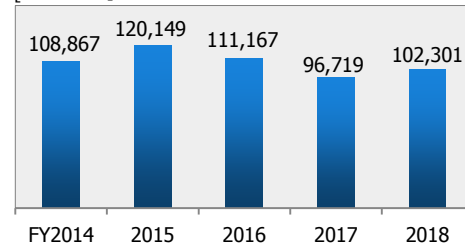
- Fujitsu Frontech Way

All employees of Fujitsu Frontech Group will mitigate a variety of risks caused by our business on the basis of Corporate Vision, Corporate Guidelines as well as Code of Conduct and Principles defined in "Fujitsu Frontech Way" to fulfil social responsibility.

(The whole Japanese texts: <https://www.fujitsu.com/jp/group/frontech/documents/about/csr/ftecway.pdf>)

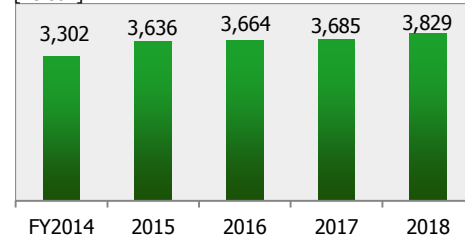
- Transition of Sales (Consolidated)

[Million JPY]



- Transition of Employees (Consolidated)

[Person]



Business Structure

We deliver new value for our customers based on ideas from "Koto" (Service-oriented way of thinking) output in the Trinity consisting of products, solutions and service.

Reinforcement of Business Promotion Structure

We, Fujitsu Frontech Group, in the purpose of reinforcing our own business promotion structure, restructured into 2 new segments, which consist of "Global Product Business" and "Solution Service Business". And, under this restructure, we now take actions on further improvement of our competitiveness based on solution service as well as cost reduction by standardization for our products.

In "Global Product Business", we deliver to global markets with our own know-how accumulated in financial, retail and public business fields. And, in "Solution Service Business", we deliver new value for customers with total solutions based on both our own cutting-age technology and ideas from "Koto".

[Summary of our Segments]

Segments	
Sub-segments	Main Products / Service
Global Product Business	
Mechatronics	> Mechanical components > Applied equipment
System Products	> ATMs > Banking terminals > System products for outside Japan > System products for public racing
Solution Service Business	
Service Integration	> ATM & Financial solutions > Industrial solutions > IoT & AI solutions > Financial service > LCM service
Front Solutions	> Palm vein authentication > RFID and Sensor solutions > Settlement solutions > Mobile systems
Others	
--	> Public display systems > Metal molds and processed parts with high precision cutting

● Bill Recycling Unit "G750"



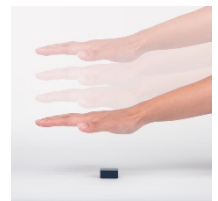
● Cashless Totalizator Terminals



● Semi-self system for mini bank (Quick Counter)



● Palm vein authentication sensor "PalmSecure-F-Pro"



Actions on SDGs

Through our products and solution service connecting people to ICT with cutting-edge technology, we contribute to SDGs.

Actions in Fujitsu Group

In September 2015, “2030 Agenda for Sustainable Development” which includes 17 goals and 169 targets related to SDGs, was adopted at “United Nations summit”.

Fujitsu Group, soon after the adoption, paid attention to the importance of SDGs, and started taking actions to contribute to achieving them, under the leadership of top management.

For example, it takes actions on realization of SDGs contribution projects collaborated with stakeholders and introduction about these case studies, as well as on internal communication in “SDGs industry workshop (Financial, retail and government)” for employees, or the like.

Actions in Fujitsu Frontech Group

We, Fujitsu Frontech Group, keeping pace with Fujitsu Group, planned our own actions on SDGs through discussion in opportunities such as management review, and started it.

As actions until FY2018, we mainly implemented internal communication such as e-learning and a topic in bulletin, because it is the first priority to cultivate awareness toward SDGs within the company. Furthermore, we provided particular training to gain deeper understanding of SDGs, for engineers belonging to solution divisions, which are deeply associated with SDGs. Through these actions, we formed strong basis to develop solutions which can contribute to SDGs.

e-learning

富士通グループのSDGsへの取り組み

富士通グループが2017年10月30日に公開した「富士通グループ 統合レポート 2017」の中でも、SDGsへの取り組みを大きく取り上げています。SDGsに対する理解と活用、そして推進体制、浸透に向けた社内外の活動を幅広く紹介しています。

また、SDGs達成への貢献について、田中代表取締役社長や谷口代表取締役副社長をはじめとした社内幹部、そして日本マイクロソフト株式会社の平野代表取締役社長をはじめとした外部有識者による「ステークホルダーダイアログ」が掲載されています。この中で、田中代表取締役社長は、「事業を通じたSDGsの達成に構造的に貢献していく」と述べ、社外有識者からは「富士通に対する期待」が強く述べられています。

次に、このSDGsについて説明します。

Topic in bulletin

SDGs (エスディーエーゼス) をもっと知ろう!

「Sustainable Development Goals (持続可能な開発目標)」とは、2015年9月の国連サミットで採択された「2030年持続可能な開発目標」の略称です。SDGsは、持続可能な開発目標を達成するための17の目標と、それに関連する169のターゲットから構成されています。

SDGsは、持続可能な開発目標を達成するための17の目標と、それに関連する169のターゲットから構成されています。

Actions in “Environmental Action Plan Stage IX”

We established “To contribute to SDGs through ICT business”, as one of the targets in “Fujitsu Frontech Group Environmental Action Plan Stage IX” (FY2019 - 2020). And, we also established management program for this target, which consists of 3 large themes and 6 small themes, as the below matrix.

As actions in the next 2 years, we will not only enhance the understanding of our employees toward SDGs, but contribute to SDGs, through our products and solution service connecting people to ICT with cutting-edge technology.

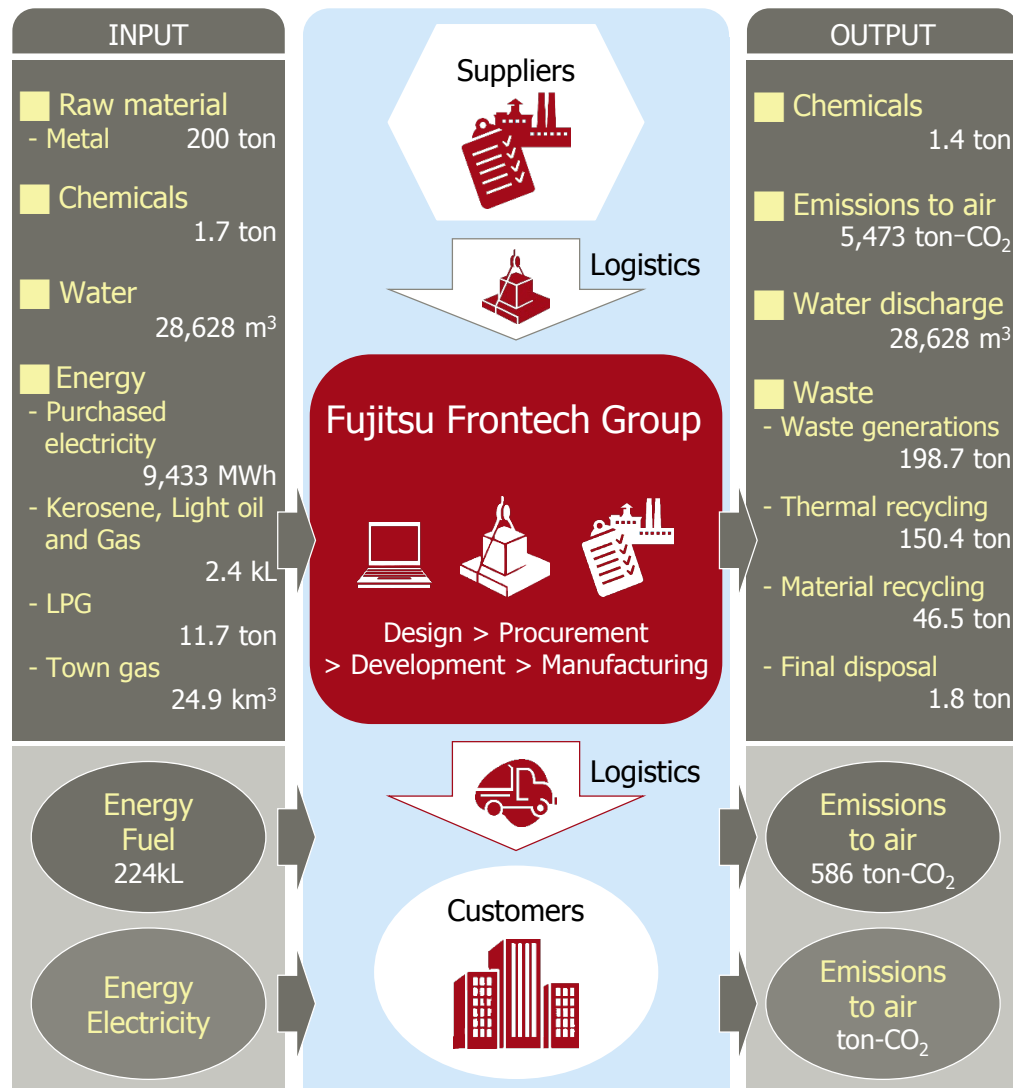
[Action Plans of SDGs]

(1) Enhancement of understanding SDGs	
1) Internal communication about SDGs	Communicate internally about SDGs through e-learning and intranet, etc., to enhance the understanding of employees toward SDGs in the whole Group companies.
2) Training of specific human resources familiar with SDGs	Train and ensure human resources familiar with SDGs, through the deep understanding at sales promotion meeting / study meeting, and the participation in external workshop etc., and establish the basis to promote SDGs in the whole Group companies.
(2) Communication with our customers	
3) Development of “SDGs Contribution Solutions”	Develop “SDGs Contribution Solutions” which are added with some factors of SDGs (in other words, are linked to some items among 17 goals of SDGs), based on previous “Environmental Contribution Solutions” certification program.
4) Proposal and sales of “SDGs Contribution Solutions”	Propose our “SDGs Contribution Solutions” to our customers with specific proposal documents, to gain their orders finally.
5) External communication about action plans of SDGs	Communicate aggressively with all of stakeholders about our actions on SDGs, through “Sustainability website” and Environmental Report, etc.
(3) Case studies of “SDGs Contribution Solutions” and PRs of them	
6) PRs about case studies of “SDGs Contribution Solutions”	Introduce about case studies of our “SDGs Contribution Solutions”.

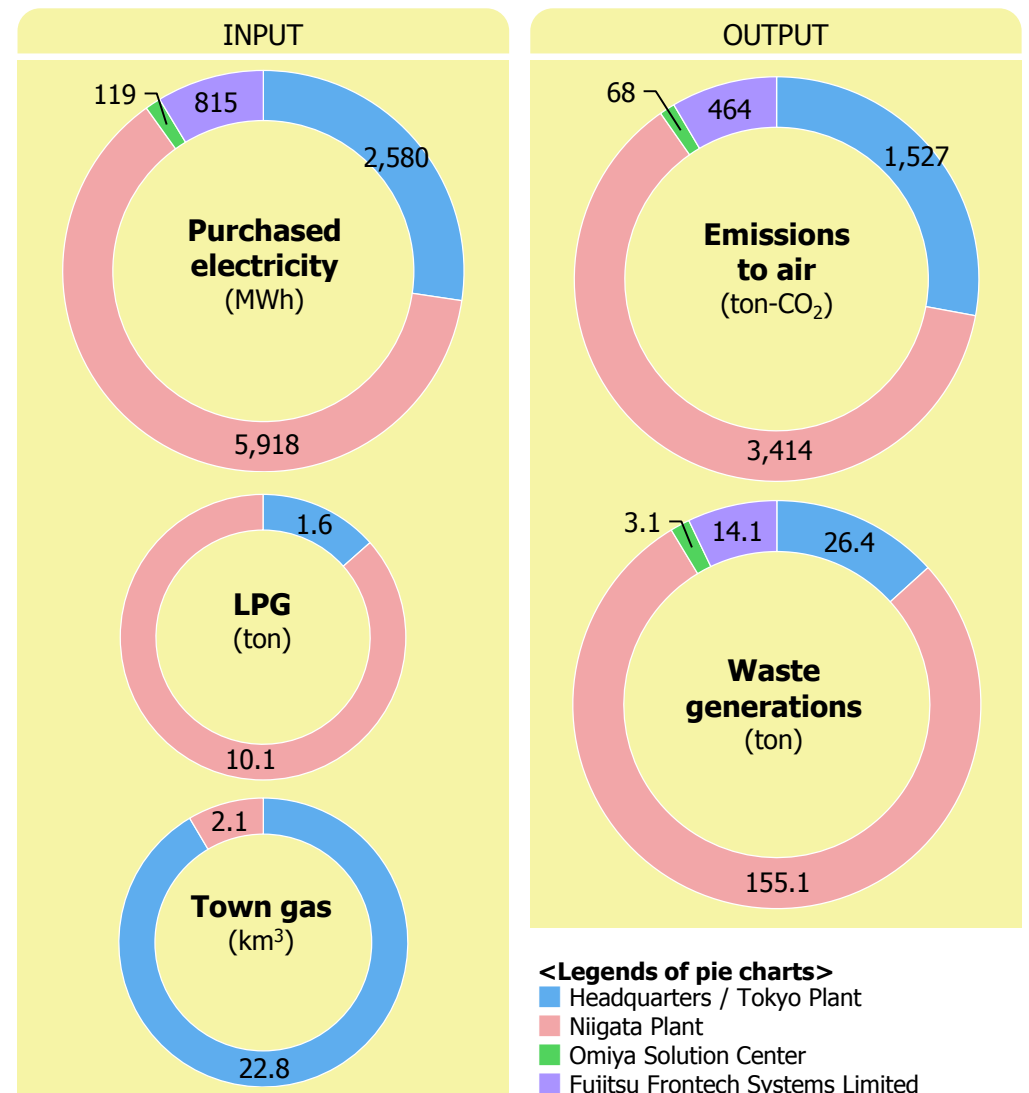
Material Balance

Based on environmental performance data, we capture the whole image of our environmental activities to promote our eco-friendly business.

[Material Balance (FY2018)]



[Details of Main Items at each Site (FY2018)]



Global Product Business

We make eco-friendly efforts, throughout supply-chain as well as spread our own expertise in Financial, Retail and Public Sector on global basis.

Development and Delivery of Eco-friendly Products

Under the circumstance that many people have more and more interests in the issues such as the safety of products and the impacts on the environment affected by products, we, throughout supply-chain, not only comply with rules of chemically hazardous products like RoHS (*1) and REACH (*2), but develop eco-friendly products excellent for both energy and resource efficiency, and deliver our customers inside and outside Japan, so as to mitigate the environmental impacts globally.

*1: Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical Equipment

*2: Registration, Evaluation, Authorization and Restriction of Chemicals

Pursuit of energy / resource efficiency

Following strictly-defined criterion of the environmental performance (energy / resource efficiency) related to products in "Fujitsu Group Environmental Action Plan", we proceed with the development by carefully determining raw materials and structures of products in the first stage of DR (design review), so that finished products can meet them.

And, in "Environmental Action Plan Stage VIII" (FY2016 - 2018), we could meet all of criterion, with the results that totally 4 products had reached the top-level of energy efficiency, and that 5 products had been improved their resource efficiency.

Instances: Our Products Developed during "Environmental Action Plan Stage VIII"



Response to chemical substances in products

To ensure the response to regulated chemical substances in products by managing centrally, we have established our original web-based system named "Earth", that the relevant divisions in charge of design & development of products, acceptance inspection of materials, quality assurance and procurement, can use. This system enables the users to select, and to order RoHS compliant parts that they wish to use. In addition, it also enables them to see if a certain part contains SVHC - Substances of Very High Concern (*3), by linking chemSHERPA (*4) to part(s).

Incidentally, we have already ensured on schedule that our products for the EU and EEA markets are compatible with newly-revised RoHS, which came into force in July 2019, that 4 kinds of phthalic esters are additionally regulated.

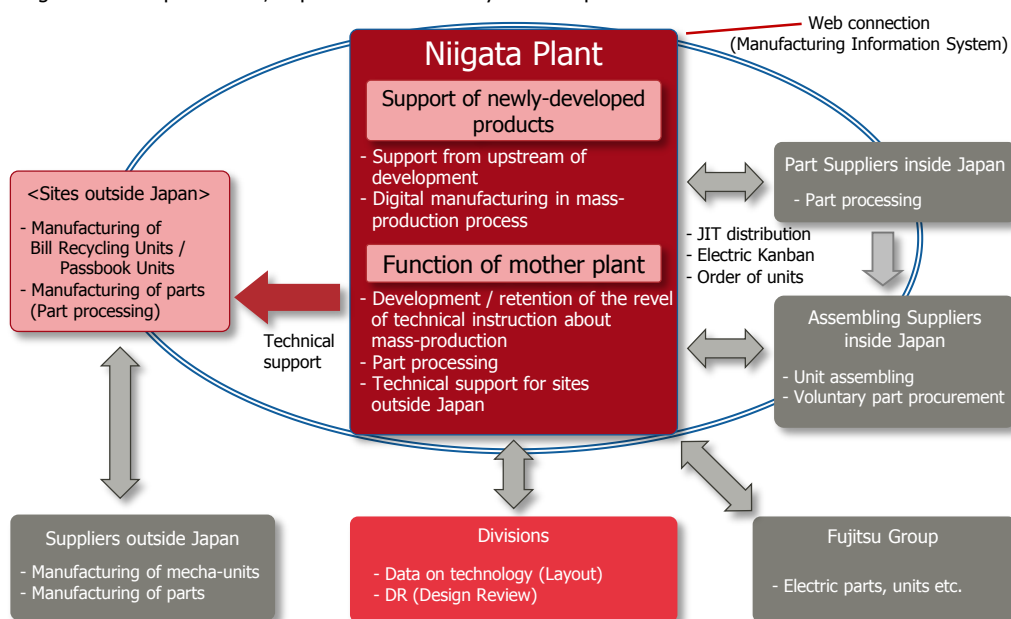
*3: "Substances of Very High Concern" which are candidates for authorization required by REACH

*4: Common scheme to communicate the information on chemicals contained in products

Global Production System

Niigata Plant, where is our production site inside Japan, pursues to become “the best global brand factory of human interface products contributing to both good business of customers and development of society”.

To realize it, based on both “Support of newly-developed products” and “Function of mother plant”, that we recognize as 2 large policies, we establish global production system, and take actions on the efficiency in the whole process, like reduction of lead-time of development, early achievement of quality targets in mass-production, improvement of faculty of mass-production and so on.



In “Support of newly-developed products”, we, setting “digital manufacturing” as a theme, introduced the method of VPS (Virtual Product Simulator) in our process, and promoted both improvement of design quality with 3D data and efficient preparation of mass-production. As a result, we could obtain great effectiveness in terms of mitigating the environmental impacts, thanks to reduction of waste which had been generated as developed prototypes, and to paperless by digitalization of working instructions, check-sheets, and process management documents.

In “Function of mother plant”, we now extend to our sites outside Japan, our own know-how and processes accumulated inside Japan, including skill-up support for foreign staff and workers, introduction of tablet system for production and logistics, and visualization with big data, so that we can operate the efficient production system for order, procurement, manufacturing, and shipping on the basis of IT system connected to the Web inside and outside Japan, in a short time.

Efforts in our Group Companies outside Japan

Our Group companies outside Japan, develop and deliver products which are suitable for particularity and needs of each local area, for example, by cooperating with local partners. They not only contribute to the development of customers and society through business, but make efforts to mitigate the environmental impacts through positive environmental activities.

Climate change measurement and waste management (FFNA)

Fujitsu Frontech North America, Inc. (FFNA) delivers customers with Bill Recycling Units, Retail Solutions, Palm vein authentications and so on, in North America markets. In addition, FFNA has started new repair business up since FY2016, to expand its business boundary.

On the other hand, it also promotes the environmental activities aggressively. For instance, it purchases wind energy which is equal to 3% in the whole electricity as a climate change measurement. Moreover, in waste management, it uses a large compactor within the site, which enables to output a large amount of recyclable paper materials like cardboards, by compacting them to 1/4 - 1/5 in size.



Large compactor for recycling

Thorough waste sorting and enhancement of employees environmental awareness (FFTS)

FUJITSU FRONTTECH (SHANGHAI) LIMITED contributes to structuring the platform of social system, by putting on the markets, Currency Recycling Equipment for financial institutions, Airline Printers and so on.

On the other hand, FFTS also promotes the environmental activities positively. For example, it prepared specific containers for each garbage defined by “Shanghai City regulations on household garbage sorting” put into force in July 2019 beforehand, so that it could be sure to sort, following the regulations. Furthermore, it posted behind the containers, some explanation documents about the advantage of correct sorting and the relation with SDGs, to make the environmental awareness of employees deeper.



Containers with posters

Solution Service Business

In Solution Service Business, we expand total solutions based on ideas from “Koto” (Service-oriented way of thinking), through “Co-creation” of service supporting the whole system life cycle.

Development and Delivery of Environmental Contribution Solutions

We established the target to develop and to deliver Environmental Contribution Solutions, in “Environmental Action Plan Stage VIII” (FY2016 - 2018), and made efforts.

In FY2018, the final year of “Stage VIII”, we made proposals to customers to introduce our environmental solutions, which quantify the “environmental improvement effect”, and customers, mainly financial institutions, have introduced totally 10 solutions in actual, as the below matrix. As a result, we could help them reduce the environmental impacts successfully.

Incidentally, we made a decision that from FY2019, we will develop and deliver “SDGs Contribution Solutions” as one of actions on SDGs in “Environmental Action Plan Stage IX” (refer to page IV.), for the reason why Fujitsu had determined that, it will try to develop solutions extended from a previous field limited to “environment” to much larger ones of “SDGs”.

[Environmental Contribution Solutions in FY2018]

#	Names of solutions	Environmental improvement rate*
1	ATM System for a certain financial institution “Quick-response to Advertisement”	-68.4%
2	Versatile OCR System “Keyword Capture”	-55.5%
3	Server Resource Distribution Package	-95.1%
4	Financial Institution ATM for a certain customer “Function of IC Fast Transaction”	-40.0%
5	System for Cards Issued outside Japan	-29.0%
6	Digital Journal System for public racing game	-55.9%
7	System for Recovery of Card MS	-97.9%
8	Quick Counter for a certain customer	-42.2%
9	System for Recovery of Card MS for a certain financial institution	-97.9%
10	ATM System for a certain customer “Function to return cards etc. in time of trouble”	-75.6%

* “Environmental improvement rate” stands for the “reduced rate” after the introduction of solutions versus before it, that is, the comparison with “before” and “after” related to CO₂ emissions derived from travel, logistics, working time, electricity consumption of equipment and so on.

Activity in Solution Service Business

Our solution for retail industry named TeamCloud/CM, is monthly cash operation cloud service, which can let come true, the efficient operation of cash management and the management of cash on hand. This solution can help customers to reduce both a large amount of working time and the calculation error derived mainly from counting cash up on site and from inputting data on headquarters, with the result that it can contribute to mitigating the environmental impacts as well as to promoting the work style reforms of customers.

[Examples of Advantage of “Cash Operation Service”]

A) Reduction of frequency of secure transportation

The introduction of our cash handling machines can help to make efficient, secure transportation of cash in shops, and to reduce frequency of the transportation, with the result that it can lead to the reduction of both costs and CO₂ emissions derived from the transportation.

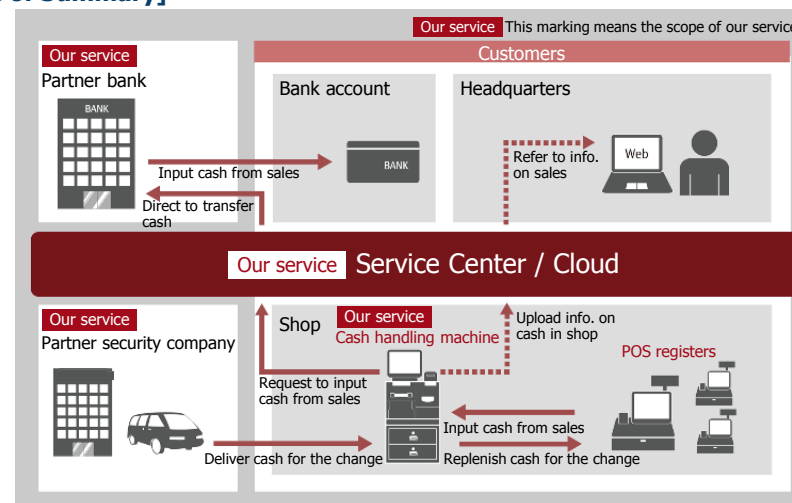
B) Efficient work

This service can help shops with very few staff, especially to mitigate the burden of cash management. In addition, it enables to reduce working time, and to shift the operation to cloud-based.

C) Concentration of accounting jobs on headquarters

It can facilitate unified management, due to integrating shop information into headquarters, based on cloud system.

[Image of Summary]

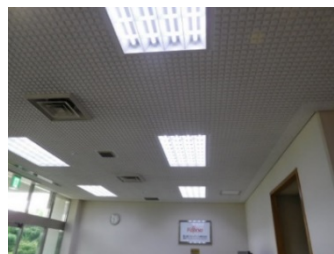


Environmental Activities in Kumagaya Service Solution Center

Kumagaya Service Solution Center (Kumagaya SSC) is our main site of "Solution Service Business". This site had taken charge in manufacturing of such as magnetic disc units, optical discs and the drives, since starting the operation as Fujitsu Kumagaya Plant in 1974. After that, our Service Business Unit started the operation as a tenant there from 2002. Finally, we, Fujitsu Frontech, have taken the site over from Fujitsu in May 2018, and we promote our business in the name of "Kumagaya SSC" now.

Mitigation of the environmental impacts

Kumagaya SSC has been taking actions on the environmental activities, ever since Fujitsu operated. For example, as one of the energy saving measures, totally more than 3,000 LED lightings have been introduced within the site, which can reduce electricity consumptions of approximately 370 MWh per year, since starting the replacement in 2012.

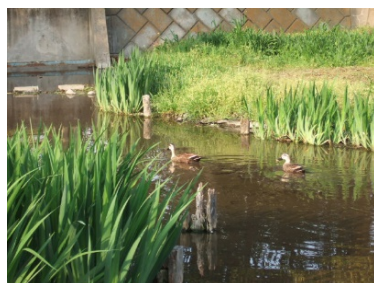


LED lightings at the front lobby

Protection of biodiversity (Biotope with multi-purpose)

As one of the biodiversity protections, a "biotope with multi-purpose" of "such as recovery of nature environment", "water purification" and "contamination control", has been being created within the site, since 1998. This biotope is a habitat for aquatic creatures like medaka fishes and crayfishes as well as various wild birds, and in other words, it creates the space for creatures living.

Incidentally, we are planning to reconstruct this biotope more sufficiently, in order to let deepen, the environmental awareness of our employees.



Wild birds living in the biotope



Small river in the biotope

Activity in our Group Company outside Japan

RFID solutions in North America (Positek RFID, Inc.)

Positek RFID, Inc., a subsidiary company of Fujitsu Frontech North America, Inc. (FFNA), was established in Pennsylvania, U.S. in November 2017. It now puts on the North America markets, the service solution utilizing RFID tag (linen tag) with UHF band, which is one of our front technology products.

For instance, Positek RFID, Inc. and Fujitsu Frontech Limited jointly developed "tracking system of clothes rental product" for linen rental industry, combining linen tags and the sensor device which have highly precise accuracy of reading even under the

very wet and dense conditions, with cloud system provided by our vendor partners. By delivering customers with the system, we can help them to make their laundry factories efficient and automatic.

This solution service tracks all the processes from accepting used clothes / linens until shipping cleaned clothes. The batch reading of linen tags can help realize efficient operation and automatic production lines in laundry factories. And, it can not only reduce wasteful costs and energy which have ever been consumed, but lead to the effective use of resources, thanks to repeated use of the small and durable linen tags.



Laundry factory introduced the system

[Image of This Solution]



Environmental Action Plan

We were able to achieve all of targets in “Environmental Action Plan Stage VIII” (FY2016 - 2018), finally.
In “Stage IX” (FY2019 - 2020), we established more challenging targets adding “SDGs”, and have just started taking actions.

Environmental Action Plan Stage VIII (FY2016 - 2018)

Categories	Targets	KPIs	Results	Judge
Our Society	Contribute to sustainable development of society through provision of ICT service. Develop more than 14 environmental contribution solutions from FY2016 to FY2018, to contribute to “Sustainable Development Goals (SDGs)”.	No less than 14 cases	20 cases	Met
	Enhance environmental value of product’s life-cycle. (Energy efficiency) Achieve top-level energy efficiency of more than 50% of the products newly developed from FY2016 to FY2018.	No less than 50%	50% (*1)	Met
	Enhance environmental value of product’s life-cycle. (Resource efficiency) Promote eco design for resource saving and circulation and increase resource efficiency of products newly developed from FY2016 to FY2018 by 15%.	No less than 15%	89% (*2)	Met
Our Business	Reduce greenhouse gas emissions in our business facilities. Control greenhouse gas emissions in our business facilities to less than FY2013 by the end of FY2018.	Under 5,368 ton-CO ₂	4,941 ton-CO ₂	Met
	Control the amount of waste to less than the average level of FY2012-FY2014. Reduce the amount of waste to 20% or more compared to average level of FY2012-FY2014 by the end of FY2018.	Under 235 ton	182 ton	Met
Original Theme	Corporate Citizenship: Social Activities related to measures against climate change and protection of biodiversity Support our employees to volunteer social activities with society.	No less than 52 cases	69 cases	Met

*1: Totally 4 kinds of products among applied 8 kinds of products, could meet top level for energy efficiency.

*2: The average value of enhanced resource efficiency among applied 5 kinds of products.

Environmental Action Plan Stage IX (FY2019 - 2020)

Categories	Targets	KPIs
Climate	To reduce GHG emissions. Reduce greenhouse gas emissions in our business facilities to 8% or more compared to FY2013 by the end of FY2020.	Under 7,236 ton-CO ₂ (*3)
Resource	To promote resource efficiency of products. Enhance resource efficiency of products newly developed to 20% or more compared to FY2014 by the end of FY2020.	No less than 20%
	To reduce waste generations. Reduce the amount of waste to 27% or more compared to average level of FY2012-FY2014 by the end of FY2020.	Under 301 ton (*3)
Supply-chain	To reduce CO ₂ emissions derived from product use. Reduce CO ₂ emissions derived from product use to 14% or more compared to FY2013 by the end of FY2020.	No less than 14%
SDGs	To contribute to SDGs through ICT service. To contribute to SDGs through ICT business.	No less than 33 cases (*4)
Original Theme	Social Activities related to measures against climate change and protection of biodiversity Support our employees to volunteer social activities with society.	No less than 61 cases

*3: Larger than Stage VIII, because of adding Kumagaya SSC as one of applicable Sites.

*4: Total action items in 3 themes of (1) Enhancement of understanding SDGs, (2) Communication with our customers and (3) Case studies of “SDGs Contribution Solutions” and PRs of them.

Topics (FY2016 - 2018)

During 3-year term of “Environmental Action Plan Stage VIII” (FY2016 - 2018), we made efforts to mitigate the environmental impacts through not only reduction of GHG emissions and waste generations, but promotion of paperless, on-site KAIZEN activities and so on.

Our Business

Reduction of GHG emissions

We replaced sequentially air conditioners and lighting equipment, with highly energy efficient ones in each business site. In addition, we introduced new temperature humidity chambers in Headquarters / Tokyo Plant. And also, we optimized the number of cubicles on the rooftop, and replaced them with new ones in Niigata Plant.

On the other hand, with the result that we transferred manufacturing function from Niigata Plant to our plants outside Japan, and that we adopted local procurement policy, we could reduce GHG emissions derived from logistics of assembling parts or the like, whose distance had been reduced in large scale.



New chamber



LED lightings in a cafeteria

Reduction of waste generations

We make efforts to increase the ratio of the amount of valuables, and to sort waste out properly at each site, in order to reduce waste generations. For example in Headquarters / Tokyo Plant, we prepared specific containers for each item, with a slightly large panel printed each image and name, in order to help employees be deeply conscious about waste sorting.

On the other hand, we implemented the inspection of waste vendors in terms of responsibility of a waste generator, so that we could see if they processed waste appropriately, which we had consigned. Moreover, we have already finished abolishing all of PCB waste, which we had stored in both Headquarters / Tokyo Plant and Niigata Plant.



Small sorting



Inspection of waste vender

Efficient Working Environment

Promotion of paperless

As one of the work style reforms which have been started since FY2017, we established “Paperless Promotion Committee for the whole companies” to take actions on 2 kinds of measures, which are both “paperless of meeting” and “paperless of office”.

In “paperless of meeting”, we introduced high-performance projectors and large monitors at each business site, so that we could hold meetings without paper documents.

On the other hand, in “paperless of office”, we took from a senior consultant, a couple of lectures about methods of “trimming paper documents down”. After that, we expanded the methods within the whole companies to reduce use of paper, and to digitalize paper.



Large display



Paperless meeting

Introduction of RPA

As one of work style reforms, we also introduced RPA (Robotic Process Automation) which is a software tool to automate simple PC operation, and to reduce the time spent it. As a result, we could reduce totally about 1,000 hours during FY2018 in the whole companies, and could also reduce electricity consumptions derived from OA devices or the like.

On-site KAIZEN activities

As one of the Kaizen activities, we monthly hold the events of both “Pride of Kaizen” and “Study of Failures” in Niigata Plant. These activities are very unique, because a representative of division or working team gives a presentation about a case study of Kaizen or failure, and after that, the attendees ask questions or make suggestions about her / his presentation, to review the case study and the effectiveness there, and to determine if it should be expanded to other divisions.

We had many case studies, like “working improvement by RPA”, “review of working process”, “introduction of new technology”, “improvement of working methods and tools” and “space improvement”. And, through these positive actions on various issues, we showed great results in terms of reduction of working time, quality improvement, cost reduction, and mitigation of the environmental impacts.

Incidentally, we got bonus from these activities, that in a positive way, the competitive awareness and the basis of mutual cooperation between each division have been made, by ensuring the PDCA cycle within the plant, and by recognizing excellent case studies each other.

Social Activities

We, Fujitsu Frontech Group, promote a variety of social activities, including mainly the environmental protection, as "Corporate Citizenship".

Headquarters / Tokyo Plant and LIFE CREATE LIMITED (LC)

Cleaning Campaign

The Headquarters / Tokyo Plant, has implemented this Cleaning Campaign since FY2007.

During FY2018, totally 83 employees participated in it, including June, Environmental Month.

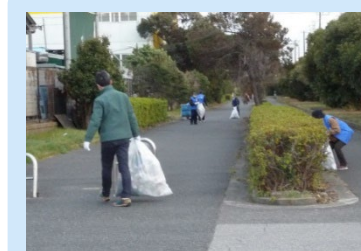


Environmental Month

TOTALIZATOR ENGINEERING LIMITED (TEL)

Clean-up with customer

As a social activity, TEL, its customers, concerned parties and employees clean up around the Boat Pier Narashino (the off-site ticket office) hand in hand.



Pick-up of trash

Niigata Plant

Flower planting volunteer

Since FY2013, we have volunteered planting flowers in the flower beds near Yoshida Kasuga-cho intersection in Tsubame-shi.

Every year, about 10 employees volunteer weeding and picking flowers monthly from April to September.



Flower planting

Kumagaya Service Solution Center (Kumagaya SSC)

Clean-up around site

On June 6, 2018, the employees in Kumagaya SSC cleaned up their commuting route around the site and the parking area.

As a result, totally 8kg of trash such as empty pet bottles and cans could be picked up by them.



Pick-up of trash

FUJITSU FORNTECH SYSTEMS LIMITED (FJFS)

Forest conservation

FJFS implements the forest conservation activities twice a year from FY2008, when they concluded the Agreement of Activities for Forest Conservation, etc. with both Gunma Prefecture and Maebashi-shi.

In FY2018, 48 employees on 6/23 and 34 employees on 11/17 took part in them.



Comemorative photo

FUJITSU DIE-TECH CORPORATION OF THE PHILIPPINES (FDTP)

Participation in charity marathon

On May 13, 2018, 20 employees of FDTP participated in charity marathon named "BALD RUN 2", which had been held in SM City, Santa Rosa, Laguna.

This event was to support children who are cancer patients.



After the event

Environmental Performance

We measure and monitor the impacts on the environment.
We promote our legal compliance based on these information.

FY2018 - Environmental Performance Data (Energy / water / chemicals / waste)

INPUT								
Sites	Energy use						Water [m³] *1	Chemicals handled [ton] *2
	Electricity [MWh]	Kerosene [kl]	Light oil [kl]	Gasoline [kl]	LPG [ton]	Town gas [km³]		
Tokyo HQs	2,580	--	0.1	0.1	1.6	22.8	13,577	--
Niigata	5,918	1.5	0.1	0.6	10.1	2.1	15,051	1.7
Omiya SC	119	--	--	--	--	--	--	--
FJFS (Maebashi)	815	--	--	--	--	--	--	--
Total	9,432	1.5	0.2	0.7	11.7	24.9	28,628	1.7

OUTPUT											
Sites	CO₂ emissions [ton-CO₂]						Water [m³]	Chemicals output [ton] *2	Waste [ton]		
	Electricity	Kerosene	Light oil	Gasoline	LPG	Town gas			Thermal recycle	Material recycle	Final disposal
Tokyo HQs	1,471	--	0.2	0.2	4.7	51.1	13,577	--	19.8	6.7	--
Niigata	3,373	3.8	0.2	1.6	30.3	4.4	15,051	1.4	130.6	22.6	1.8
Omiya SC	68	--	--	--	--	--	--	--	--	3.1	--
FJFS (Maebashi)	464	--	--	--	--	--	--	--	--	14.1	--
Total	5,376	3.8	0.4	1.8	35.0	55.5	28,628	1.4	150.4	46.5	1.8

*1: "Grand water" in Tokyo HQs and Niigata Plant has not been counted since FY2015.

*2: Chemicals to be controlled are based on Fujitsu rule. (except chemicals in a little use which is not applicable to law)

FY2018 - Environmental Performance Data (Legal Compliance)

Niigata Plant -- Groundwater Unit: [mg/L] Measuring pts.: 7 pts.				Tokyo HQs -- Groundwater Unit: [mg/L] Measuring pts.: 4 pts.			
Main Items *1	Results *2	Legal Sta.	Original Sta.	Main Items *1	Results *2	Legal Sta.	Original Sta.
Lead and its compounds	<0.001 - 0.001	0.01	0.005	Lead and its compounds	<0.002	0.01	0.005
Hexavalent chromium compounds	<0.01	0.05	0.025	Hexavalent chromium compounds	<0.005	0.05	0.025
Arsenic and its compounds	0.002 - 0.032	0.01	0.01	Arsenic and its compounds	<0.001 - 0.002	0.01	0.005
Fluorine and its compounds	<0.08 - 0.15	0.8	0.4	Fluorine and its compounds	<0.08	0.8	0.4
Cis-1, 2-dichloroethylene	<0.004	0.04	0.02	Cis-1, 2-dichloroethylene	<0.004	0.04	0.02

Niigata Plant -- Drainage Unit: [L] Measuring pts.: 2 - 8 pts. *3			
Main Items *1	Results *2	Legal Sta.	Original Sta.
Hydrogen ion concentration (pH)	6.7 - 7.7	5.8 - 8.6	5.8 - 8.6
Biochemical oxygen demand (BOD)	0.9 - 6.6	25	25
Suspended Solid (SS)	2 - 22	90	72
Boron and its compounds	<1.0	10	5
Fluorine and its compounds	<0.8	8	4

*1: Other chemicals measured were all below standards of both legal and original.

*2: With respect to each item, we disclose both minimum and maximum value at all the measuring points (a minimum value includes "<" which stands for "less than a detection limit").

*3: Both measuring points and measuring areas are determined each other, depending on the kinds of chemicals.

Environmental Accounting

In FY2018, the cost was 320 million JPY; the effect was 1,090 million JPY and cost effectiveness was 760 million JPY. As a result, the effective amount decreased by 10% (-80 million JPY) compared to FY2017.

FY2018 - Results of Environmental Accounting

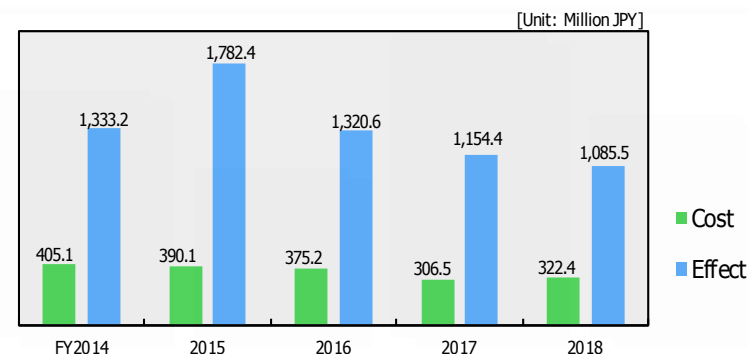
While some effects like "eco protection" increased, the effect of "environmental R & D" decreased, mainly because of transitory saturation of demand for ATMs and bank branch terminals inside Japan. And, total balance decreased compared to last fiscal year.

[Results compared to FY2017]

Cost : +15,911 thousand JPY (306,546 > 322,457)

Effect : -68,869 thousand JPY (1,154,391 > 1,085,522)

Balance: -84,779 thousand JPY (847,845 > 763,065)



FY2018 - Detail of Environmental Accounting

(): Compared to FY2017 [Unit: Million JPY]

Items		Boundary	Costs	Effects
Within the business area	Pollution prevention	Air pollution prevention, Water quality protection, etc.	18.8 (+0.1)	17.2 (+0.8)
	Eco protection	Energy saving, Prevention of the global warming, etc.	53.8 (+11.9)	26.4 (+1.5)
	Resource circulation	Waste disposal, Effective utilization of resources, etc.	82.2 (+3.9)	67.2 (-1.5)
	Sub total		154.8 (+15.9)	110.8 (+0.8)
Up/down stream		Product recycling, Green procurement, etc.	22.8 (+1.2)	7.7 (-0.5)
Management		ISO14001, Eco training, Information systemization, etc.	63.7 (-1.4)	38.6 (+3.7)
R & D		Research for eco-friendly technology of products, etc.	81.1 (+0.2)	928.4 (-72.9)
Social activity		Donation and support to eco conservation group, etc.	0.0 (0.0)	0.0 (0.0)
Eco damage		Recovery of land and ground-water pollution, etc.	0.0 (0.0)	0.0 (0.0)
Total			322.4 (+15.9)	1,085.5 (-68.9)

Business Offices / Main Facilities / Group Companies



Business Offices

- Sales Group
- Omori Office
- Tohoku Branch
- Chubu Branch
- Nishinohon Branch
- Kyushu Branch

Group Companies inside Japan

LIFE CREATE LIMITED

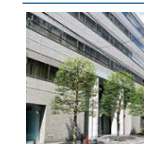
Welfare programs, facility management and labor dispatch operations

FUJITSU FRONTTECH SYSTEMS LIMITED



Development of software and solutions

TOTALIZATOR ENGINEERING LIMITED



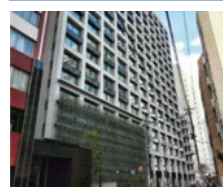
Maintenance of totalizator systems, development and sales operation services and support systems for public racing courses

Main Facilities

Headquarters / Tokyo Plant



Omiya Solution Center



Niigata Plant



Kumagaya Service Solution Center



Group Companies outside Japan

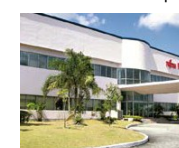
FUJITSU FRONTTECH (SHANGHAI) LIMITED. (FFTS)

Sales and maintenance of mechanical components and display systems



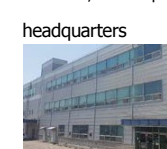
FUJITSU DIE-TECH CORPORATION OF THE PHILIPPINES (FDTP)

Manufacturing and sales of metal molds and mechanical components



FUJITSU FRONTTECH CHUNGHONG GLOBAL PRODUCTS Co.,Ltd (FCGP)

Development, manufacturing and sales of cash handling equipment (ATMs, CDs, adjustment machines, cash deposit machine, etc.



headquarters

R&D Center



Fujitsu Frontech North America, Inc. (FFNA)

Headquarters

Sales of mechanical components, RFID, and palm vein authentication systems etc. and mechanical development and sales of self-checkout systems



Plattsburgh Plant

Manufacturing of self-checkout systems etc. and mechanical components repair service



Positek RFID, Inc.

Sales of RFID products and provision of solutions and services related to RFID



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