Sustainability Management

Our vision and the policy for achieving a sustainable society.

Sustainability Management in the Fujitsu Group

Policy, Promotion Scheme, and Review

The Fujitsu Group has always been seen by society as a trustworthy and responsible enterprise through its delivery of products and services. However, in the current era of VUCA(*1) we face major changes and the future is difficult to predict. It is therefore important that we, as a member of the global community, conduct business activities under the leadership of senior management that are aimed at resolving environmental, societal and economic problems and that will produce beneficial impacts for society. In April 2020, we established a new Sustainability Management Committee that will drive a sustainability-focused management approach.

The objective of this committee is sustainability management that takes into account environmental, societal and economic impacts as well as stakeholder(*2) interests, ensuring that the company prospers in the long term as a responsible global enterprise. Specific initiatives will be in line with our values and our purpose, set out in the revised Fujitsu Way, and will include boosting our efforts in non-financial areas. These include respect for human rights, acceptance of diversity, human resource development, maintenance of the global environment and contributing to the development of regional communities. Our goal is to achieve sustainable, long-term improvement in the value of the Fujitsu Group through corporate activities.

The committee is scheduled to meet every six months to check on the progress of our activities in non-financial areas and to confirm if we are on track to meet our targets. The committee will also discuss new activities and consider non-financial indicators, and then report to management meetings and the Board of Directors with the results. The committee is chaired by the CEO, who will nominate executives with a perspective on sustainability management for appointment as committee members. (As of May 2021, the committee had 16 members, including the chair.) The first committee meeting was held in April 2020, followed by meetings in October and March 2021 – all conducted remotely. The meetings were characterized by lively discussions on topics such as the spread of the COVID-19 pandemic, the accelerating global movement toward decarbonization, the ideal future shape of the Fujitsu Group, the mission of the committee, details of the non-financial indicators, an overview of Global Responsible Business activities and progress toward achieving the related targets.

*1   VUCA: Volatility, Uncertainty, Complexity, Ambiguity
*2   The Fujitsu Group's stakeholders: The Fujitsu Group regards our people, customers, partners, community and shareholders as its stakeholders. Government authorities, NPOs, NGOs, and similar organizations are also particularly important stakeholders within this community.

System Chart

Non-Financial Indicators

To realize its Purpose, as defined in the Fujitsu Way, the Fujitsu Group must achieve sustainable growth. An essential prerequisite for this is the building and strengthening of trusted relationships with all stakeholders. With this in mind, in addition to the existing financial indicators, from FY 2020 we have added two non-financial indicators. These are the customer Net Promoter Score (NPS), which gauges the level of trust exhibited by customers, and employee engagement, which measures the degree of enthusiasm and commitment that employees have and their support of the organizational culture. The Fujitsu Group has identified Global Responsible Business as an important issue related to sustainability, and we believe that this initiative will engender heightened trust from our customers and our employees, with the outcome visible in these non-financial indicators. We will continue to promote a structure for the ongoing monitoring on a global basis of the data from these two non-financial indicators. The insights gained from this monitoring and analysis will then be reflected in a range of activities.
For details, please refer to pages 22-23 of the Fujitsu Group Integrated Report 2020 – Special Feature: " Progress Toward Becoming a DX Company", Management Indicators and Global Responsible Business (GRB).

Global Responsible Business

Since its CSR Promotion Committee established the Basic Strategy Working Group in 2010, the Fujitsu Group has identified Five Priority Issues in its Basic CSR Policy and has been promoting activities that address those priority issues. The working group conducted interviews with outside experts regarding the expectations and demands on Fujitsu, based on an awareness of global CSR standards and social issues.
However, recent years have seen a further ramping up of demand for initiatives aimed at building sustainable communities on a global scale, including the adoption of the Sustainable Development Goals (SDGs) by the United Nations and the coming into effect of the COP 21 Paris Agreement. The Fujitsu Group has employed a materiality analysis in a Groupwide review of the priority issues to ensure that they reflect changes in its business over the past several years. The result is a unified framework for the priority issues under the banner of Global Responsible Business (GRB).

- Reference: Materiality
  https://www.fujitsu.com/global/about/csr/materiality/

Global Responsible Business

The GRB framework aims to foster the mindset and corporate culture necessary to realize the Fujitsu Way by engaging in specific activities that address our priority issues and to earn and maintain the social trust that is a prerequisite for global business activities. All Group employees must be constantly aware that their companies are part of society and aim to not only pursue profits but also reduce the negative impact of their business activities on sustainability issues while maximizing the positive.
To this end, we have specified long-term goals for each priority issue, with the end of fiscal 2022 set as the deadline for their achievement, and have been building an effective management system to attain the goals. In order to carry out higher-level activities globally while taking into account the differences between countries and regions in such areas as local laws and labor markets, we have set Groupwide targets for all employees. Employees based at our headquarters who are responsible for each of the priority issues led efforts in formulating these targets, while personnel in overseas regions with similar responsibilities also provided input in this regard. We will continue to work on specific measures toward achieving the goals.
In addition, the status of progress in the execution of the GRB is periodically checked by the Sustainability Management Committee, with announcements made in management direction reviews and through various communications methods. Detailed information on activities for each of the priority issues is included in the Global Responsible Business section of Fujitsu's Sustainability web page.

- Reference: Goals and Targets of the Global Responsible Business (GRB)
  https://www.fujitsu.com/global/about/csr/vision/grb/

Materiality

Process of Materiality Analysis

The Fujitsu Group reviewed its previous five priority issues in consideration of the GRI Guidelines, ISO 26000, and SASB Standards, as well as global trends such as the SDGs and the Paris Agreement. Seven new priority issues (materiality) were then determined after going through a three-step process. We will implement activities worldwide as part of our Global Responsible Business (GRB) framework while working to achieve specific goals related to each of the priority issues.

Step1   Listing relevant issues
- Created a comprehensive list of issues – after carefully considering the GRI Guidelines, ISO 26000, and SASB Standards, plus global trends including the SDGs and the Paris Agreement
- Refined that list down to approximately 30 issues – after consolidating similar items and deleting items with minimal relationship to Fujitsu's areas of business

Step2   Gauging relative importance
- Based on the identified issues, an in-house survey was conducted across all business units to assess the perceived importance of the issues
- Discussions were held with a range of external stakeholders, including experts, to understand the importance regarding expectations and requirements of Fujitsu from an outside perspective
- Considering both the internal and external viewpoints, the relative importance of the issues was analyzed and gauged

Step3   Deciding on materiality
- In recognition of the importance of the issues, a reconsideration of issues reflected an organizational restructure based on the latest management direction and a unified common approach to global operations across the Fujitsu Group
- Taking a long-term perspective to enhance the performance of Fujitsu's financial indicators, a process involving the Environmental & CSR Management Committee (currently the Sustainability Management Committee), management meetings, and the Board of Directors determined seven priority issues for sustainability as linked non-financial indicators at the same time, it was agreed that activities should commence on a global basis under the GRB framework

Table. Determination of Materiality (Priority Issues) and Overview

Priority Issues	Overview
Human Rights, Diversity & Inclusion	Give consideration to human dignity and conduct human-centric value creation in corporate activities; and respect diversity and foster a corporate culture in which everyone can contribute while remaining true to themselves
Wellbeing	Create an environment where all employees can work with vitality and provide employees with opportunities to realize self-growth and to take maximum advantage of their talents
Environment	Help address environmental issues by implementing climate change countermeasures that contribute to the achievement of the Paris Agreement's 1.5°C target and by providing innovative solutions
Compliance	Ensure that employees of all organizations are rigorously informed about the Fujitsu Way Code of Conduct; cultivate awareness of higher levels of corporate ethics, including societal norms; and act with sincerity
Supply Chain	Realize procurement in the Group's supply chains that is highly diversified and which takes responsibility for human rights, the environment, and health and safety
Occupational Health and Safety	Give first priority to ensuring safety as well as sound physical and mental health and provide safe, healthy workplace environments that reflect the circumstances in respective countries and regions
Community	Conduct activities with a heightened sense of awareness for societal issues and create favorable socioeconomic impacts; and ensure those derived benefits generate even greater value

Transforming Our Corporate Culture

Fujitsu Way Revised

Since releasing the revised Fujitsu Way in 2020, we have implemented measures to communicate the content to all of our people, including via a range of presentations and briefings. To ensure that the Fujitsu Way message is thoroughly disseminated and understood, we have appointed Fujitsu Way promotion leaders in the parent company and in group companies both in Japan and overseas. We are establishing a governance structure in which these individuals will lead our efforts to promote the Fujitsu Way throughout the year.

Our purpose is to make the world more sustainable by building trust in society through innovation.

Activities to Promote the Fujitsu Way

In-house communication initiatives

To coincide with the revision of the Fujitsu Way, we released a range of internal-focused communications including messages from the CEO and articles in our online in-house magazines. In this internal messaging, we incorporated the wise words of previous CEOs and other pioneers – to reflect the DNA to be carried forward – as well as the enhanced vision that the current CEO and senior management have in mind for Fujitsu. The objective is for all employees to understand the background underlying the words and to realize the significance of the Fujitsu Way to themselves personally. We will

Image of Fujitsu Way Booklet

continue to use briefing sessions and other meetings, as well as explanatory videos, to ensure that all our people employ the Fujitsu Way as they work to achieve Our Purpose.

Fujitsu Way meetings help to build our global governance structure

The CEO holds semiannual Fujitsu Way Meetings with the Fujitsu Way promotion leaders to directly convey the thoughts of senior management and to enhance motivation and understanding of the Fujitsu Way. In FY2021, approximately 400 of these leaders participated in the meetings, under the theme of "Fujitsu Way promotion leaders take charge with practical implementation on the front lines". The CEO also addresses Fujitsu Town Hall meetings, and we implement initiatives from the Human Resources Unit designed to share management's purpose-driven technology strategy and promote the Fujitsu Way. Furthermore, the governance structure that we are creating encompasses Fujitsu Way initiatives on a global scale, including the groupwide deployment of best practice concepts by front-line business units to achieve the current goal of "Implementing the Fujitsu Way on the front lines".

Broadening the message through Purpose Carving®

To realize Fujitsu's corporate purpose, the ideas of every employee must be brought together to generate even greater strength. We have therefore commenced a journey that will allow each of our employees to give shape to their individual purpose.

Purpose Carving® is an interactive program that enables people to express their purpose in words, and it is being rolled out throughout the Fujitsu Group. The Purpose Carving® methodology encourages individuals to reconsider the meaning of their work and their life in a broad sense before carving out their own purpose, which is then overlaid on Fujitsu's corporate purpose to act as a driving force for transformation. The management group were first to engage in this program and it is now being extended to all employees. Approximately 1,600 employees who joined Fujitsu Group companies in Japan during FY2021 completed Purpose Carving® as part of their new employee training.

Sustainability Contribution Awards

The Fujitsu Group repositioned the Environmental Contribution Awards, which were launched in 1995, and opened them up to all employees across every group company while rebranding them as Sustainability Contribution Awards. The aim is to further promote the Fujitsu Way by recognizing "Activities to Enhance Sustainability in Society (Outputs to Society)" and "Fostering Mindsets and Culture (Organizational Cultural Change)". Fujitsu Way promotion leaders and the Chief Sustainability Officer serve as judges, and they base their decisions on the extent to which the entries embody the values and purpose reflected in the Fujitsu Way and on the various elements of Global Responsible Business.

A total of 127 entries were submitted by a wide range of Fujitsu Group companies, and two Grand Awards and six Excellence Awards were presented. Overviews of the two Grand Award recipient projects appear below.

- Grand Award Winners
  ＜Unparalleled Speed on the MLPerf HPC Machine Learning Processing Benchmark＞
    Power consumption for computing is growing year by year, and more efficient programming is critical to reduce the amount of energy consumed. In November 2020, two systems in Japan claimed the top positions on the MLPerf HPC benchmark, which measures large-scale machine learning processing on a level requiring supercomputers. The ABCI open computing infrastructure, from the National Institute of Advanced Industrial Science and Technology (AIST), and RIKEN's Fugaku supercomputer, jointly developed by Fujitsu, achieved the world's highest performance for two different types of systems. The processing speeds achieved in this benchmark will enable the scale of machine learning processing required for the detection of abnormal weather phenomena and new discoveries in astrophysics. This achievement reflects Fujitsu's excellent technical capabilities and programming efficiency, and the result will contribute to reductions in the amount of energy consumed during machine learning.

  ＜Rapid Action by the COVID-19 Infection Control Team＞
    Fujitsu sensed the magnitude of the problem even before the COVID-19 pandemic became widespread in Japan and established the COVID-19 Infection Control Team. To provide an urgent response to a virus for which appropriate countermeasures were not known, they found solutions to problems with the lean Consulting Creation methodology that works even when those on the front lines cannot provide any specifications. The team's activities produced Japan's first successful multipurpose infection control system, which is used in such areas as medical care, long-term care, schools, companies, and quarantine facilities. Furthermore, the team was quick to provide an efficient vaccine reservation system that helped to ease the confusion experienced by local government agencies and workplaces when attempting to manage reservations for vaccination appointments.

Global Responsible Business (GRB) Goals and Achievements

GRB Goals and Major Achievements in FY2020

Pillar	"WHAT FUJITSU ASPIRES TO BE" and "GOALS FOR FY2022"	Major Achievements in FY2020
Human Rights, Diversity and Inclusion	◆Human Rights In both the real-world and digital societies, consideration for "human dignity" is reflected in all our corporate activities and we constantly work to "create human-centric value". <Goals> Embedding "respect for human rights" within Fujitsu group • Completion rates for global human rights training : 80%	• Preparing contents for human rights training for all employees (Started in July 2021)

	◆Diversity and Inclusion
	Be a responsible business that reflects the diversity of our world and build an inclusive culture where everyone can be completely themselves.
	We will celebrate difference and ensure that people can succeed regardless of their personal identity, especially their gender, sexual orientation, gender identity, race, ethnicity, health, disability, and age.
	
	<Goals>
	Cultivation of inclusive corporate culture.
	• Fujitsu Group aims to achieve at least Consolidated 69% from 66%(FY2019) / Non-consolidated 63% from 59%(FY2019), in favorable answers to Diversity and Inclusion question of Engagement Survey by FY2022.
	• Fujitsu Group aims to achieve at least Consolidated 10% from 8%(FY2019) / Non-consolidated 9% from 6%(FY2019) female leadership by FY2022.
		• Favorable answers rate of engagement survey related to "Diversity and Inclusion" question
		  - Consolidated 67%
		  - Non-consolidated 61%
		• Female leadership rate
		  - Consolidated 9.3%
		  - Non-consolidated 7.4%

Wellbeing	The Fujitsu Group aims to enrich and continuously improve our positive health culture where our employees can work to their full potential, both in mind and body. We value the importance of our people, and will strive to enable them to succeed in their own personal development and growth. <Goals> Providing a positive work environment for our people • Fujitsu Group aims to achieve at least 71%, in favorable answers to "Work Life Balance" and "Care" question of Engagement Survey by FY2022 Enabling success in personal development and growth • Fujitsu Group aims to achieve at least 70%, in favorable answers to "Growth" question of Engagement Survey by FY2022	• Favorable answers rate of engagement survey related to "Work Life Balance" and "Care" question: 66% • Favorable answers rate of engagement survey related to "Growth" question: 67%

Environment	Fujitsu will fulfill its social responsibilities as a global corporate environmental leader. We aim to contribute to achieving the 1.5℃ climate change goal of the Paris Agreement and also to resolving environmental challenges, through such measures as developing innovative solutions that make effective use of resources.
	
	<Goals>
	Fulfill our social responsibilities and help to resolve environmental challenges
	• Reduce greenhouse gas emissions at Fujitsu sites by 37.8% or more from the base year level (Reduce by 4.2% each year compared with FY2013)
	• Avoid risks associated with our business activities and minimize our impact on the environment
	• Help to resolve environmental challenges for customers and society through our business operations
		• Greenhouse gas emissions reduction rate :
		  - FY2020 Target 29.4% or more
		  - Achievement 25.3%
		  (Reduced by 4.4% compared with FY2013)
		   * Accelerate GHG reduction by the increase of renewable energy usage from FY2021
		• Avoid risks and minimize our impact on the environment :
		[Business sites]
		- Reduce total water usage by 2.2% (180,000 m^3) (compared to FY2017)
		- Promote eco design for resource saving and circulation and increase resource efficiency of newly developed products by 27.5% (compared to FY 2014)
		- Reduce amounts of waste generated by 34.1% (9,867t) (from the average of FY2012-2014)
		[Supply chain]
		- Reduced CO_2 emissions due to power consumption during product usage by 37% (compared to FY2013)
		- Reduce CO_2 emissions and conserve water resources in the upstream supply chain : Request the Fujitsu Group's key partners (approximately 750 companies) to undertake reduction activities
		• Help to resolve environmental challenges :
		- Through ICT services, conducted 39 measures including both internal staff initiatives and external business promotion initiatives with the aim of understanding and spreading the SDGs contribution.

Compliance	Ensure that all officers and employees within the Fujitsu Group conduct their business activities with a high level of compliance awareness and through those activities, the Fujitsu Group fulfils our social responsibilities and earns the trust of our stakeholders. <Goals> To further disseminate compliance-related part of the Fujitsu Way Code of Conduct throughout the entire organization, the Global Compliance Program is rolled out for the entire Fujitsu Group, thereby instilling a high level of compliance awareness in the	• Deliver messages to all employees from the President or the Heads of each Business Region on the importance of compliance

	organization, and the management is to take the lead in fostering a corporate culture where each employee does not tolerate any wrongdoings (Zero Tolerance). • Deliver messages from the President or the Heads of each Business Group/Region on the importance of compliance (at least once a year)	

Supply Chain	In its supply chain, the Fujitsu Group will achieve responsible procurement that embraces diversity and gives full consideration to human rights, the environment and health & safety.
	
	<Goals>
	✓ The Fujitsu Group will achieve responsible procurement in its supply chain.
	To ensure that its major suppliers comply with the international standards for responsible procurement, the Fujitsu Group will obtain one of the following documents from its major manufacturing subcontractors and parts suppliers for its core products (Target KPI =100%)
	• A platinum or gold level of site recognition under the RBA(*1) Audit Recognition program
	• Written consent with the Fujitsu Group CSR Procurement Guideline (equivalent to the RBA Code of Conduct)
	✓ Promotion of supply chain diversity
	We set supply chain diversity as our goal of Responsible Business and promote it globally.
		• Availability of any of the following documents: 60%
		  - A platinum or gold level of site recognition under the RBA Audit Recognition program
		  - Written consent with the Fujitsu Group CSR Procurement Guideline
		• Achieved procurement KPIs from enterprises with diverse attributes, such as SMEs, women's management, and minority enterprises in UK, Americas, and Oceania

Occupational Health and Safety	The Fujitsu Group's first priority in all business activities is to protect the health and safety of our employees both in mind and body by providing a safe and healthy work environment tailored to the different cultures in which we operate. • We will foster a culture that does not tolerate accidents, incidents and poor safety performance. • We will ensure safety is a core business value, and make safety important and personal in order to influence people's decisions and behavior • We will completely eliminate the loss of business opportunities due to preventable illnesses, injuries, and unexpected work-related accidents <Goals> The Fujitsu Group will maintain a safe and comfortable working environment, and promote employees' mental and physical health in every workplace. • Zero occurrences of serious accidents • Implementing health and safety-related management reviews at the global level, conducted once a year	• Zero occurrences of serious accidents • Exchanging opinions with stakeholders for management review
Community	Our employees, who possess an awareness that they belong to a global society, will have a positive impact not just on society, but on the economy and on business, by increasing their empathy for social issues and engaging in the co-creation of activities. We will evaluate, analyze and communicate the impact that our employees have made, and offer greater value to society.	• Developing a scheme to collect case studies (Scheduled to begin in the first half of FY 2021)

<Goals>

Contributing to the transformation of both our corporate culture and mindset of employees

- Rate of increase in the number of employees participating in social contribution activities related to social issues : 10% increase compared to FY 2019 under the new normal

*1 RBA: Responsible Business Alliance
Fujitsu Joins EICC, a Global Corporate Social Responsibility Coalition (renamed as the Responsible Business Alliance (RBA) in October 2017)
https://www.fujitsu.com/global/about/resources/news/press-releases/2017/0329-01.html/

SDG-related Activities in Fujitsu

SDG-related Activities in Fujitsu

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, are a set of common goals to be achieved worldwide by 2030. Fujitsu's purpose is "to make the world more sustainable by building trust in society through innovation" and our company has made a commitment, both internally and externally, to contribute to achieving the SDGs. As a global enterprise that for decades has leveraged technology to create value for society, Fujitsu has a responsibility to proactively contribute to societal transformation. To help make the world more sustainable, we aim to generate larger and more beneficial impacts for society by pursuing co-creation to create scalable new business, which will also help to spur ongoing sustainable corporate growth. In its efforts to contribute to achieving the SDGs, Fujitsu is transforming to a sustainable management model via its Global Responsible Business (GRB) framework and is also working to resolve societal challenges through its business operations. We believe the SDGs essentially define a system transformation that must be achieved by 2030 to allow the world's 9 billion-plus inhabitants to live a good life within the planet's constraints. The issues highlighted in the SDGs involve a complex web of environmental, social, and economic elements. One key to solving these inherent problems is through digital transformation (DX), which can be applied on a scale that encompasses all aspects of society. We will harness the power of digital technology to connect ecosystems that transcend industry boundaries as we transform our own management. We will also assist the transformation of our customer organizations, while playing a part in delivering fundamental changes to the way society interacts and contribute to the resolution of societal challenges.

The SDGs are an overarching framework of global social needs and form a common language for all stakeholders. Fujitsu will use the SDGs as an opportunity for co-creation with a wide range of stakeholders, including international agencies, national and regional governments, private companies, non-governmental organizations (NGOs), and non-profit organizations (NPOs). By embracing a multifaceted approach to societal challenges through cooperation, we can create and maximize positive impacts on an even larger scale.

SDG Promotion Systems

Fujitsu's purpose-driven management approach aims to apply the GRB principles to promote sustainability throughout all business activities and to generate positive impacts from its business operations. This will help to overcome the societal challenges highlighted in the SDGs and create a sustainable world, while also ensuring the sustainable growth of Fujitsu itself. By closely aligning all of our corporate activities and developed solutions with the SDGs, we are working to tightly integrate the SDGs into our overall management structure in collaboration with our corporate units, business units, various regions (Japan, Northern and Western Europe (NWE), Central and Eastern Europe (CEE), Americas, Asia, Oceania) and group companies.

Overview of promotion systems

SDG Promotional Activities in Fujitsu

To contribute to achieving the SDGs via our business operations, it is vital that we work beside our customers with a shared awareness of the societal challenges that lie ahead. We must forge a future vision and not focus solely on our customers' short-term problems. Fujitsu conducts a range of activities designed to enhance understanding of the SDGs among all employees, thereby encouraging the promotion of business designed to overcome challenges in society.

In FY2020, on the internal Fujitsu Learning EXperience on-demand learning platform, we released a video that describes the relationship between our corporate purpose and the SDGs. The aim is for each employee to fully appreciate societal challenges and how they are linked to their own day-to-day work, so that the SDGs can be leveraged as an inspiration for co-creation to generate greater value for customers.

Contributing to SDGs with Digital Technologies and Services

Responding to COVID-19
– Dealing with Challenges that Transcend Industry Boundaries

The COVID-19 pandemic has brought into sharper focus the challenges highlighted by the SDGs. Infectious diseases, climate change and other issues are linked in complex ways, with a multitude of factors spanning the environment, society, and the economy. We believe it is crucial to contribute to achieving the SDGs and will apply our imagination and creativity to envision a post-COVID scenario. While being mindful of societal challenges, we will 'Reimagine' a new society and business world.

- Fujitsu's response to COVID-19
  https://www.fujitsu.com/global/covid19/
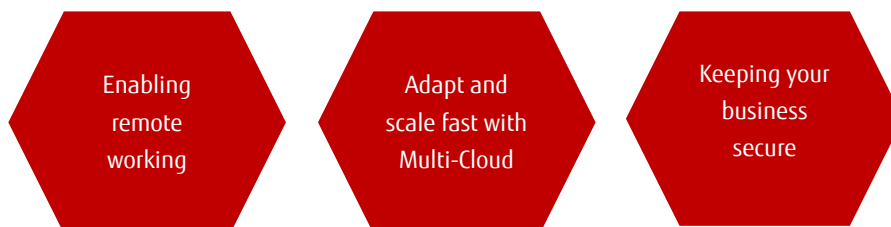
- Reimagine: Solutions supporting the new normal
  https://www.fujitsu.com/global/microsite/reimagine/

Building Trust through Pandemic-Resilient Event Management Technologies

Our lives have been transformed radically by COVID-19, and restrictions have been imposed on a wide range of sporting and other activities. On a positive note, various countermeasures have been devised, vaccination rates are gradually rising, and we have started to build the framework for our 'new normal' world. As organizers plan for the resumption of sporting and other events, safety and economic viability must be assured while also considering the spectators' perspective and strictly following all health-related regulations. Fujitsu applied its quantum-inspired Digital Annealer technology to develop a unique solution that ensures safety yet maximizes spectator numbers at events. In some preliminary modeling, we worked in conjunction with the Berlin Olympic Stadium and the world-famous Nürburgring motorsport race track(*1). Compared with actual data for ticket sales made using existing systems, Fujitsu's modeling confirmed that up to 60% more seats could be sold, with a significant boost to financial returns, while still complying with social distancing guidelines. We are currently collaborating with sports facilities and event organizers to further promote digitalization.

By using advanced technologies such as AI and IoT to deliver safe, reliable environments for sporting and cultural events, Fujitsu will continue to work toward the achievement of a trusted society.

*1   Official English website：https://nuerburgring.de/

•   Fujitsu Technology Enables 60% More Fans to Attend Live Events with Safe Covid Distancing
    https://www.fujitsu.com/emeia/about/resources/news/press-releases/2021/emeai-20211506-fujitsu-technology-enables-more-fans-to-attend-live-events-with-safe-covid-distancing.html

Key SDGs related to this solution

Optimizing Logistics for Large-Scale Supply Chains Leads to CO_2 Emission Reductions and Other Benefits
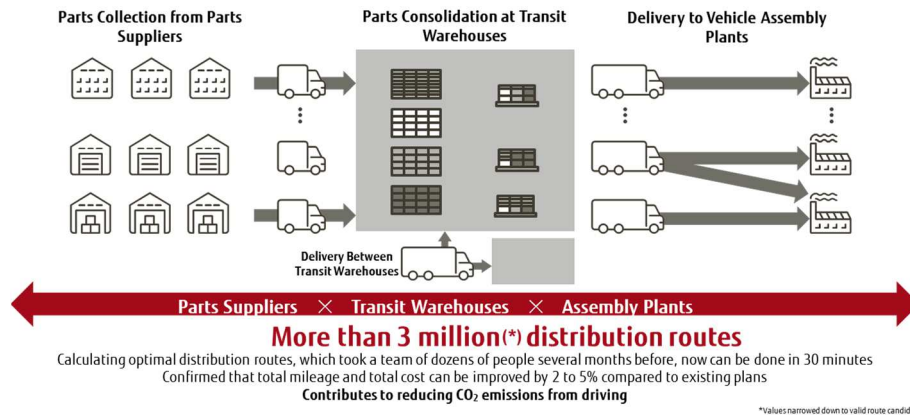
Logistics has assumed a vital support role for society, but the sector faces challenges such as a driver shortage, worsening congestion, air pollution, and rising CO_2 emissions.

Fujitsu joined with Toyota Systems Corporation in a trial designed to optimize complex distribution and supply chains. This demonstration leveraged Fujitsu's quantum-inspired Digital Annealer, and the two companies are refining the solution to commercialize it for real-world logistics operations. The trial successfully calculated the most cost-effective approach from more than 3 million possible distribution routes for automotive parts – traveling from hundreds of suppliers, through several transit warehouses, to dozens of assembly plants. Digital Annealer calculated the optimized logistics costs based on variables including the number of trucks, the total travel distance, and the amount of work involved in sorting the packaged parts.

An enormous number of optimization calculations were completed in a very short time, and the trial results confirmed the possibility of trimming logistics costs by approximately 2%-5%. These savings were generated by discovering more effective routes, which were not detectable using conventional methods, and from efficiencies related to loading tasks, the number of trucks deployed, and minimizing the overall distance traveled. In addition to enhancing the delivery planning process, this trial proved that it is possible to make a major contribution to reducing CO_2 emissions by cutting the total distance that logistics

operators need to travel.

Fujitsu will provide ongoing support for the business activities of Toyota Systems Corporation as we continue using Digital Annealer to overcome societal challenges in a wide range of industries and business domains.

Parts Collection from Parts Suppliers — **Parts Consolidation at Transit Warehouses** — **Delivery to Vehicle Assembly Plants**

Delivery Between Transit Warehouses

Parts Suppliers × Transit Warehouses × Assembly Plants

More than 3 million(*) distribution routes

Calculating optimal distribution routes, which took a team of dozens of people several months before, now can be done in 30 minutes
Confirmed that total mileage and total cost can be improved by 2 to 5% compared to existing plans
Contributes to reducing CO₂ emissions from driving

*Values narrowed down to valid route candidates

- Fujitsu and Toyota Systems Optimize Large-Scale Supply Chain Logistics using Quantum-Inspired Technology
  https://www.fujitsu.com/global/about/resources/news/press-releases/2020/0910-02.html

Key SDGs related to this solution

3 GOOD HEALTH AND WELL-BEING | 8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION | 13 CLIMATE ACTION | 17 PARTNERSHIPS FOR THE GOALS

Reducing Food Wastage by Standardizing the Criteria for Determining Damage to Packaging

Cardboard boxes containing beverages can become damaged and may be refused or discarded on delivery, even if the products inside the boxes are not defective in any way. The industry consensus is that, irrespective of whether the packaging is damaged or dirty, sales of undamaged products should be permitted. However, the current situation is ambiguous because those responsible for taking delivery of goods apply subjective judgments about the acceptability of products based on the condition of the packaging. There is a tendency for people tasked with receiving goods to take a strict stance as they consider the views of consumers and the risk of damaged stock being delivered to their stores, so there is a high likelihood of items being rejected. Returned products are generally destroyed because it is not possible to re-ship them, based on the production date.

Understanding the need for an industry-wide standard for determining levels of acceptable damage to cardboard packaging, Fujitsu collaborated with Suntory Beverage & Food Limited to develop an AI-based image analysis system. Photos of damaged or dirty packaging can be taken with smartphones or other mobile devices during the delivery process (from factory to wholesaler to retailer) and the system will automatically judge if the item is in acceptable condition or should be returned. During the trials in this proof of concept, we worked toward the goal of minimizing waste. Fujitsu aims to extend this framework to other beverage manufacturers, and to wholesalers and retailers in the distribution sector, with the objective of standardizing the

product-return criteria and thereby helping to overcome the industry's challenge of reducing food wastage.
- Winners of the Supply Chain Innovation Award 2020 Recognized (Supply Chain Innovation Excellent Award, Suntory Beverage & Food Limited) – Ministry of Economy, Trade and Industry
  https://www.meti.go.jp/english/press/2020/0703_001.html

Key SDGs related to this solution

In-Store Trial of Checkout-Free Solution Aims to Meet Pandemic-Driven Demand for Contactless Options

The spread of the COVID-19 pandemic has triggered growing demand in the retail and hospitality sectors for cashier-free and contactless solutions to safeguard customers and staff members. One company taking on these challenges is KOYO SHOP-PLUS Co., Ltd., a firm that operates more than 500 convenience stores, restaurants, and other outlets within hospitals in Japan. Fujitsu has installed a checkout-free solution in one of the company's outlets to enable store operations that are contactless and require no face-to-face interaction. The customer first downloads the Green Leaves + application on their mobile device and registers their credit card details, before scanning the QR code on the app's display as they enter the store. Once in the store, the customer's movements and purchased items are detected by IoT-connected overhead cameras and smart shelf sensors, which are linked in the cloud to the AI-based checkout-free solution. As the customer leaves the store, the payment is processed automatically and the purchase history can be confirmed via the electronic receipt sent to the customer's device. A further ground-breaking innovation involves multi-biometric authentication technology that can identify a person using only palm-vein patterns and facial recognition. By linking biometric information to the customer's existing account in advance, it is possible to enter a store and complete purchases while carrying nothing.

We will continue offering top-quality services suited to societal requirements as we work to ensure the wellbeing and safety of all members of society.

- Japanese only:
  KOYO and Fujitsu Commence Trial of Japan's First Public-access, Checkout-free Store that Uses Biometric Authentication
  https://pr.fujitsu.com/jp/news/2021/01/14.html

Key SDGs related to this solution
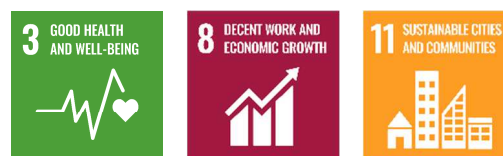
Supercomputer Fugaku and AI Unlock Potential for New Cancer Treatments

Understanding how cancers develop and acquire genetic diversity represents a critical challenge for medical researchers. Even using the supercomputers available at universities, it typically takes several months to analyze the genetic network structures likely related to the cancer and to predict the disease state. This presents difficulties for researchers working to discover new mechanisms of cancer that cannot be understood at the individual gene level and for incorporating these findings into research.

To overcome such challenges, Tokyo Medical and Dental University and Fujitsu Laboratories Limited embarked on joint research under the theme of "unravelling origin of cancer and diversity by large-scale data analysis and artificial intelligence technology". This was part of the Program for Promoting Research on the Supercomputer Fugaku being advanced by Japan's Ministry of Education, Culture, Sports, Science and Technology. The research set out to estimate and predict the relationship between complex genomic networks and the breakout of certain cancer types, by focusing on the genes most likely to be involved in that cancer development. The estimation and prediction results were achieved in less than a day by leveraging Fujitsu Laboratories' explainable AI technology Deep Tensor (*2) and the world's fastest supercomputer, Fugaku, which was jointly developed by RIKEN and Fujitsu. This innovation is expected to pave the way for new forms of cancer treatment.

Fujitsu will continue to contribute to scientific research through a variety of collaborative efforts and will apply the outcomes in a practical way to benefit the health and wellbeing of people around the world.

*2   AI technology developed by Fujitsu Laboratories that derives new knowledge from graph structure data that shows connections between people and things.

- Fujitsu and Tokyo Medical and Dental University Leverage World's Fastest Supercomputer to Perform Cancer Gene Network Analysis in Less than a Day
  https://www.fujitsu.com/global/about/resources/news/press-releases/2020/1110-01.html
- Fugaku x AI: A Game Changing Combination in Cancer Treatment Research
  https://blog.global.fujitsu.com/fgb/2021-05-07/fugaku-x-ai-a-game-changing-combination-in-cancer-treatment-research/
- Fujitsu Technology to Elicit New Insights from Graph Data that Expresses Ties between People and Things
  https://www.fujitsu.com/global/about/resources/news/press-releases/2016/1020-01.html

Key SDGs related to this solution

United Nations Global Compact

Fujitsu announced its support of the United Nations Global Compact in December 2009. The Fujitsu Group is committed to global sustainability Activities that uphold the 10 principles of the Global Compact. Through this commitment, we will meet the demands of various stakeholders in international society, and uphold responsible management as a true global ICT company contributing to the creation of a sustainable society.

What is the Global Compact?

＜The 10 principles of the UN Global Compact＞

The UN Global Compact consists of 10 principles in the four areas of human rights, labor, the environment, and anti-corruption with which companies should rigorously comply.

Human Rights
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
Principle 2: make sure that they are not complicit in human rights abuses.

Labor
Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
Principle 4: the elimination of all forms of forced and compulsory labor;
Principle 5: the effective abolition of child labor; and
Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment
Principle 7: Businesses should support a precautionary approach to environmental challenges;
Principle 8: undertake initiatives to promote greater environmental responsibility; and
Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Please refer to the "GRI Standard/UN Global Compact (GC) Index" for the relationship between our sustainability activities in fiscal 2020 and the United Nations Global Compact, as described in the "Fujitsu Group Sustainability Data Book".
And we have been reporting our COP (Communication on Progress) at the Advanced Level since FY 2012.