



ANNUAL
REPORT
2017



Editing Policy

CTC's Annual Report 2017 highlights the most important information from the CTC Group's business activities, business results, CSR activities and management framework, with a particular focus on management strategy, and presents it to readers in a concise and integrated manner. CTC has designed the Annual Report 2017 to be used in conjunction with the CTC website as part of efforts to promote effective communication with shareholders, investors and all other stakeholders.

Website Information

For more information about the CTC Group. Please use the following links:

■ IR Information

<http://ctcir.ctc-g.co.jp/rose/en/index.htm>

IR documents such as financial results and securities filings, as well as IR news

■ CSR Information

<http://www.ctc-g.co.jp/en/corporate/csr/index.html>

Detailed information about the CTC Group's social and environmental activities

■ Corporate Governance Information

<http://www.ctc-g.co.jp/en/corporate/csr/governance/corporategovernance.html>

Information about the CTC Group's Corporate Governance.

Scope of Report

The report covers ITOCHU Techno-Solutions Corporation (CTC) and its Japan and overseas consolidated subsidiaries. It also contains some information about non-consolidated subsidiaries and affiliates.

Notes on Financial Amounts

Figures shown have been rounded down to the nearest unit, based on IFRS.

Forward-Looking Statements

Statements made in this Annual Report with respect to CTC's plans, strategies and beliefs, and other statements that are not historical facts, are forward-looking statements about the future performance of CTC based on management's assumptions and beliefs in light of information currently available to it and involve certain risks and uncertainties.



Chapter 1

Who we are:

CTC's Sustainable Growth Story

In this section, we look at CTC's current position, its value creation processes and the steps the Group is taking to deliver sustainable growth.

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Chapter 2

CTC's Growth Strategy

The President, CFO and outside directors explain CTC's new Medium-Term Management Plan, group philosophy, capital policy and approach to corporate governance. COOs also describe the growth strategies for each business and highlight how CTC creates value for clients.

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Chapter 3

Systems that Support Value Creation

In this section, we show how we are reinforcing our management base to support value creation and implementing CSR initiatives to cultivate a distinct CTC culture. We also describe the Group's management framework.

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Who we are:

CTC's Sustainable Growth Story

Working to Change the Future for the Global Good



CTC, our corporate brand, is derived from the phrase “Challenging Tomorrow’s Changes”. This slogan embodies our corporate mission of “leveraging IT’s potential to change the future for the Global Good”. Our clients are facing various challenges in their businesses amid changes in the operating environment. Our goal is to provide consulting services that give them optimal solutions to overcome those challenges, systems integration that puts the solutions into practice, and support services once our systems have been delivered. By providing this integrated package of services, we aim to enhance corporate value for clients and help change future for the Global Good.



Slogan

Challenging Tomorrow's Changes

Mission

Leveraging IT’s potential to change future for the Global Good.

Values	Action Guidelines
Challenge the Change	Are you determined? Are you constantly trying new things without ever giving up?
Challenge the Value	Are you creative? Do you create value that exceeds customers’ expectations?
Challenge the Future	Are you free thinking? Do you strive to map out a brighter future?



Take responsibility for the evolution of the IT industry, as the industry’s leading company



We at CTC will endeavor to fulfill our corporate social responsibility in accordance with the CTC Group Philosophy, and always conduct ourselves with a strong sense of ethics and responsibility based on an understanding of the code set forth below:

- 1 Full Commitment to Compliance
- 2 Offering Services and Products Useful to the World
- 3 Fair Trade and Prevention of Corruption
- 4 Strict Management of Information
- 5 Creation of a Work Environment with Respect for Human Rights
- 6 Consideration for a Sustainable Environment
- 7 Contribution to Society
- 8 Standing Against Antisocial Forces and Organizations
- 9 Reporting and Preventing the Recurrence of Violations
- 10 Taking the Initiative and Setting Good Examples



CTC has a long track record of flexibly responding to change and building on its strengths.

Multi-Vendor

1980s

Started sales of Oracle products

1990s

Started sales of products from

- Avaya
- Cisco Systems
- Hewlett Packard Enterprise
- IBM
- NetApp
- Veritas Technologies and other vendors



2001

Opened Technical Solution Center (TSC) as an integrated verification center

2000s

Started sales of products from

- Dell EMC
- Juniper Networks
- Symantec and other vendors

2000s

Started sales of products from

- Citrix Systems
- F5 Networks
- Microsoft
- Red Hat
- VMware and other vendors

Technological Capabilities

1996

Launched Japan's first online weather information site

1999

Supported pioneering initiatives to develop the mobile Internet for a leading mobile carrier

1999

Collaborated on satellite digital communication system project for convenience stores

1999

Number of engineers in CTC Group to over 1,000

2004

Moved into the wind and solar power fields using expertise from weather IT

2004

Number of engineers in CTC Group to over 2,000

2006

Mergers increase number of engineers in CTC Group to over 3,000

2007

Started initiatives in virtualization technologies

2009

Launched TechnoCUVIC and other cloud services

Support Framework

1995

Opened Kobe Computer Center

1988

Opened Yokohama Computer Center



2001

Opened Management Operation Center (renamed Remote Operation Center (ROC))

2000

Opened Otemachi Internet Data Center

2005

Opened Shibuya Data Center



2008

Opened Mejirozaka Data Center

Mainframe era

Internet era

1999

Listed ITOCHU TECHNO-SCIENCE Corporation on First Section of Tokyo Stock Exchange (TSE)

2001

CRC Integrated Research Center Co., Ltd. name changed to CRC Solutions Corp. Company then listed on First Section of TSE in 2002

2000

Listed CRC Integrated Research Center Co., Ltd. on Second Section of TSE

2006

ITOCHU TECHNO-SCIENCE Corporation merged with CRC Solutions Corp.

Merged company makes new start as a total solution provider

Developments in IT mean our clients' needs are constantly changing. We have responded flexibly to those changes and built on our strengths over time. Today, our business covers the full spectrum of the IT lifecycle. We will continue to take on new challenges as a company that drives the evolution of Japan's IT industry.

2010s

Started sales of products from

- Palo Alto Networks
- Pure Storage
- Tableau Software
- Amazon Web Services
- Box

and other vendors



2016

- GRID
- SentinelOne
- Nutanix

2017

Roughly 280 vendor partners

2014

Certified as Japan's first Open Compute Project (OCP) solution provider

2012

Opened Big Data Processing Lab

2015

Developed CUVICmc2 cloud service for backbone systems



2017

Number of engineers in CTC Group to over 6,300

2013

Launched C-ARCS solution for credit card operations

2014

Established Innovation and R&D Division

2014

Opened Advanced Technology LAB

2016

Opened RoBo-LAB

2016

Opened IoT Digital LAB

2017

Opened Institute of Open Innovation Research "MIRAI"



2013

Opened Yokohama Computer Center North Wing

2014

Launched system operation and monitoring service CTC Proactive Service (CPS) in Malaysia

2016

Launched Avail-I maintenance service that automatically detects IT system faults

2014

Opened CTC Security Operations Center (CTC-SOC) and began providing CTC Managed Security Service (CTC-MSS)

2016

Launched Avail-ProE service that predicts IT system faults and latency

Cloud era

- 2011**

Opened Singapore Branch Office
- 2013**

Acquired two companies in Malaysia and Singapore and changed names to CTC Global Sdn. Bhd. and CTC Global Pte. Ltd.
- 2012**

Formed capital alliance with Netband Consulting Co., Ltd. of Thailand
- 2017**

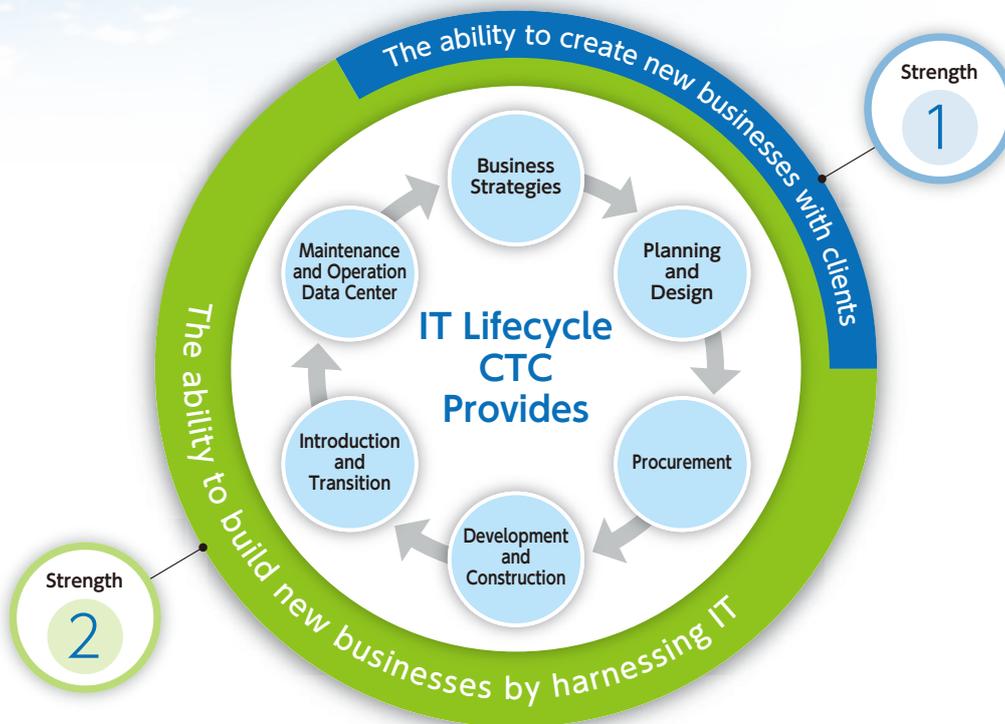
Established PT. CTC Techno Solutions Indonesia, a Group company in Indonesia
- 2012**

Acquired US company ITOCHU Technology, Inc. and changed name to ITOCHU Techno-Solutions America, Inc.



CTC's Value Creation Process

As a total IT solutions provider, CTC draws on two key strengths to create new businesses and provide optimal solutions for all areas of IT systems that support those new businesses.



Enhance corporate value for clients

To change future for the Global Good

Strength

1

The ability to create new businesses with clients

CTC works with clients to create businesses that utilize cutting-edge IT, drawing on many years of experience in a wide range of sectors and its network of partners in Silicon Valley.

<h3>Broad Client Base</h3> <p>Wide range of sectors</p> <ul style="list-style-type: none"> Transportation / distribution Telecommunication Finance Manufacturing Public sector / utilities Public and private research institutions <p>Industry expertise</p> <p>→ See P29-42 for more details</p>	<h3>Institute of Open Innovation Research (MIRAI)</h3> <p>CTC Future Factory</p> <table border="1"> <tr> <td> SPACE (Innovation space) DEJIMA </td> <td> Engineering (Prototype development) Agile and scrum development approaches Ideathon Hackathon </td> </tr> <tr> <td> Producing (Sector partnerships and matching) Business partner matching </td> <td> Community (Community and Events) Meet-up events </td> </tr> </table> <p>→ See P28, 39-40 for more details</p>	SPACE (Innovation space) DEJIMA	Engineering (Prototype development) Agile and scrum development approaches Ideathon Hackathon	Producing (Sector partnerships and matching) Business partner matching	Community (Community and Events) Meet-up events	<h3>Partnerships</h3> <p>*ITOCHU Techno-Solutions America, Inc. A 30-year relationship with companies in Silicon Valley through our local US subsidiary</p> <p>Itochu Group network</p> <p>Domestic and overseas joint ventures</p> <p>*ITOCHU Techno-Solutions America, Inc.</p> <p>→ See P5-6, 41-42 for more details</p>
SPACE (Innovation space) DEJIMA	Engineering (Prototype development) Agile and scrum development approaches Ideathon Hackathon					
Producing (Sector partnerships and matching) Business partner matching	Community (Community and Events) Meet-up events					

Strength

2

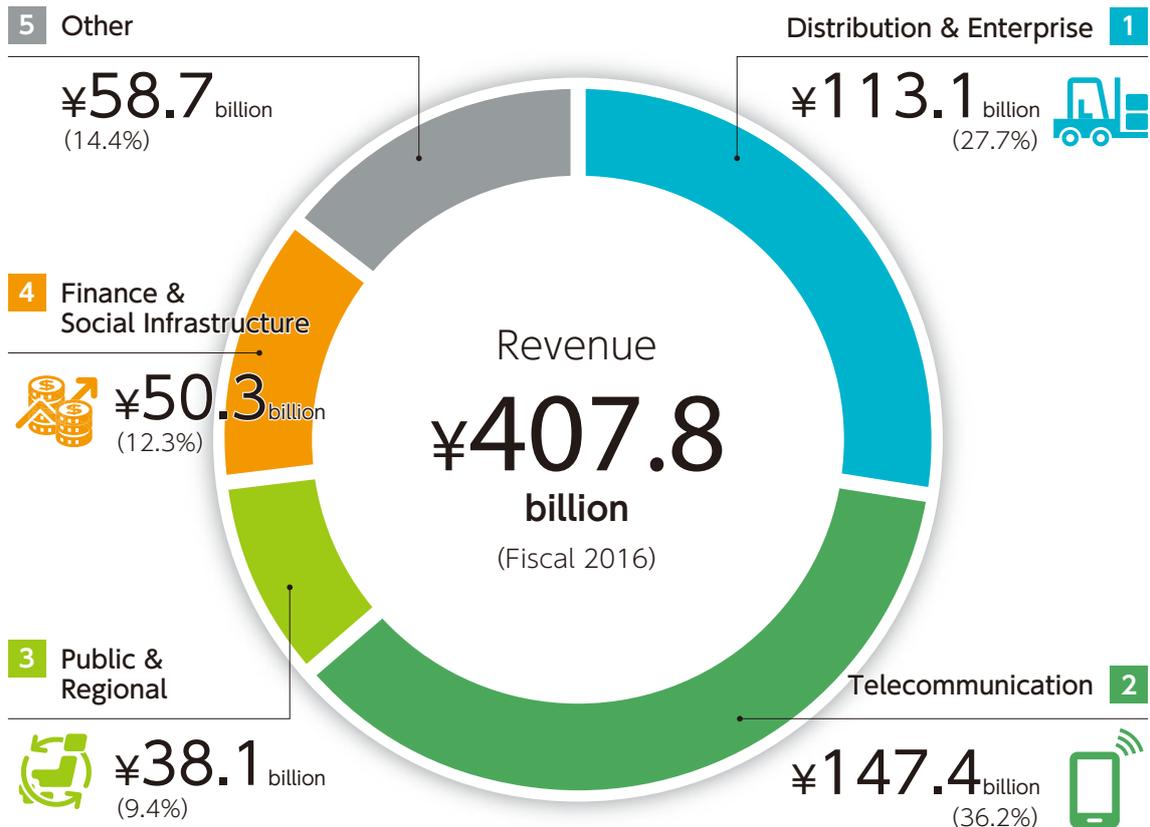
The ability to build new businesses by harnessing IT

CTC selects the best products and services for client needs from a vast array of IT options, combines them into systems and ensures they operate securely. Our capacity to deliver across all those areas is our strength as a company.

<h3>Multi-Vendor</h3> <p>Vendor partners Around 280 companies</p> <p>→ See P47 for more details</p> <p>Verification facilities in Japan</p> <p>→ See P48 for more details</p>	<h3>Technological Capabilities</h3> <p>In-house engineers Roughly 6,300</p> <p>→ See P55-56 for more details</p> <p>Development partners Around 950 companies Roughly 8,300 engineers</p> <p>→ See P47 for more details</p> <p>Competitive cloud services developed in-house</p> <p>→ See P37 for more details</p>	<h3>Support Framework</h3> <p>5 data centers in Japan Security Operation Center (CTC-SOC)</p> <p>→ See P49-50 for more details</p> <p>About 100 maintenance support centers in Japan</p> <p>→ See P49-50 for more details</p> <p>Overseas support system</p> <p>→ See P41 for more details</p>
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We are using our wealth of skills and experience in a wide range of fields to help clients overcome challenges.

Revenue by business group



Major Clients

1 Distribution & Enterprise	2 Tele-communication	3 Public & Regional	4 Finance & Social Infrastructure	5 Other
Main clients are manufacturers, distributors, trading companies, transport companies and service companies.	Main clients are telecom carriers and online service providers.	Main clients are regional companies, central government ministries and agencies, local governments, regional banks, power companies and gas companies.	Main clients are banks, securities companies, credit card companies, postal service providers, power companies and insurance companies.	Mainly comprising the IT Service Group, Advanced IT Strategy Group and domestic and overseas operating companies.
→ See P29-30 for more details	→ See P31-32 for more details	→ See P33-34 for more details	→ See P35-36 for more details	→ See P37-42 for more details

CTC's client base covers a wide range of sectors, including telecom carriers and financial firms that need systems to operate 24/7 all year round, manufacturers and utilities with large-scale systems, and construction and energy firms that require advanced scientific computing capacity. The skills and know-how we have built up over many years serving this diverse client base underpin our ability to deliver advanced and innovative IT solutions.

Revenue by business model

3 Products

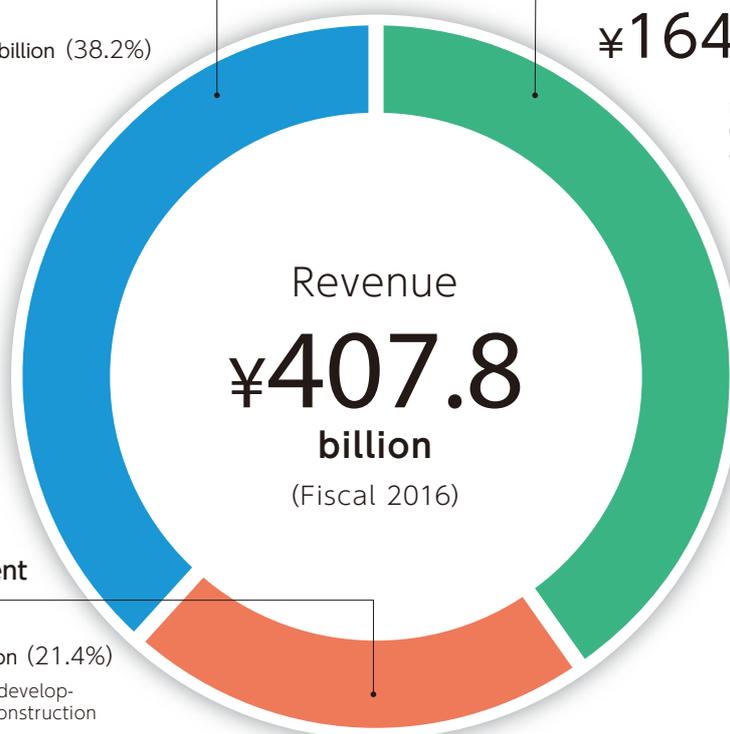
¥155.7 billion (38.2%)
Including servers and storage, network and database products

Services 1

¥164.9 billion (40.4%)
Including systems maintenance and operation, cloud services and data center services

2 SI Development

¥87.1 billion (21.4%)
Including application development, infrastructure construction and consulting



Changes in Revenue

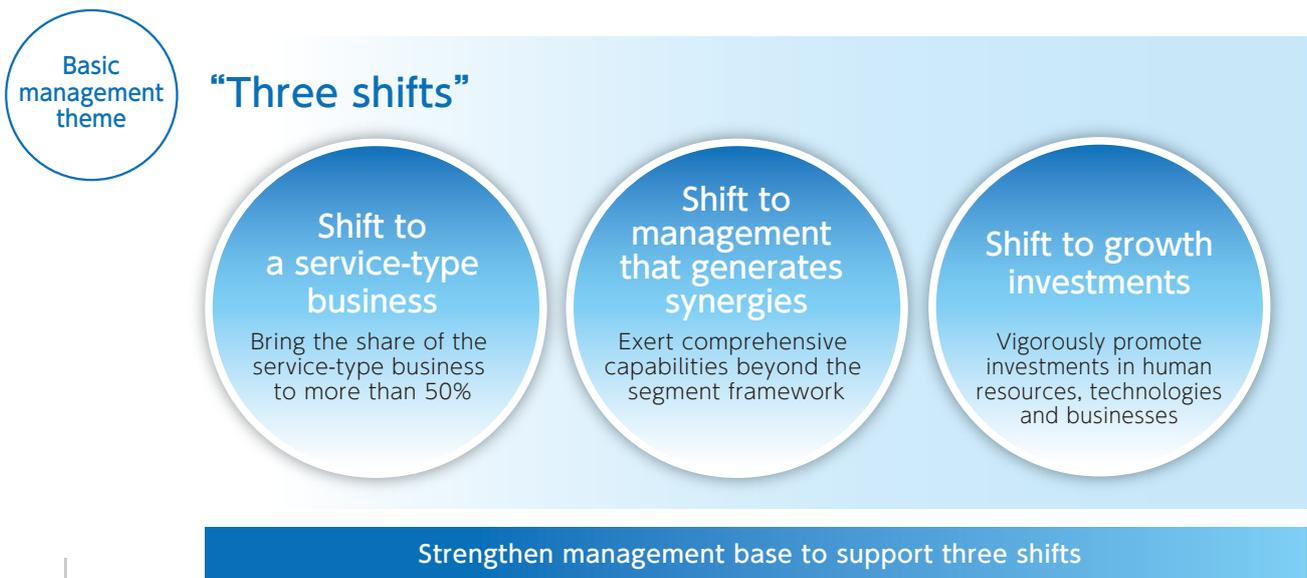
(¥ billion)

	JGAAP							IFRS				Fiscal 2016
	Fiscal 2006	Fiscal 2007	Fiscal 2008	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015		
1 Services	105.3	128.0	134.9	134.0	131.1	130.6	135.0	145.2	155.0	158.3	164.9	
2 SI Development	55.0	69.4	67.1	66.4	59.7	67.0	64.9	71.9	79.0	77.6	87.1	
3 Products	133.9	121.8	105.1	89.8	92.1	100.0	122.4	133.3	147.8	155.6	155.7	
Total	294.3	319.2	307.2	290.3	283.0	297.7	322.4	350.5	381.9	391.6	407.8	

Take responsibility for the evolution of the IT industry as the industry's leading company. We will continue to implement our "three shifts" and move into new business fields.

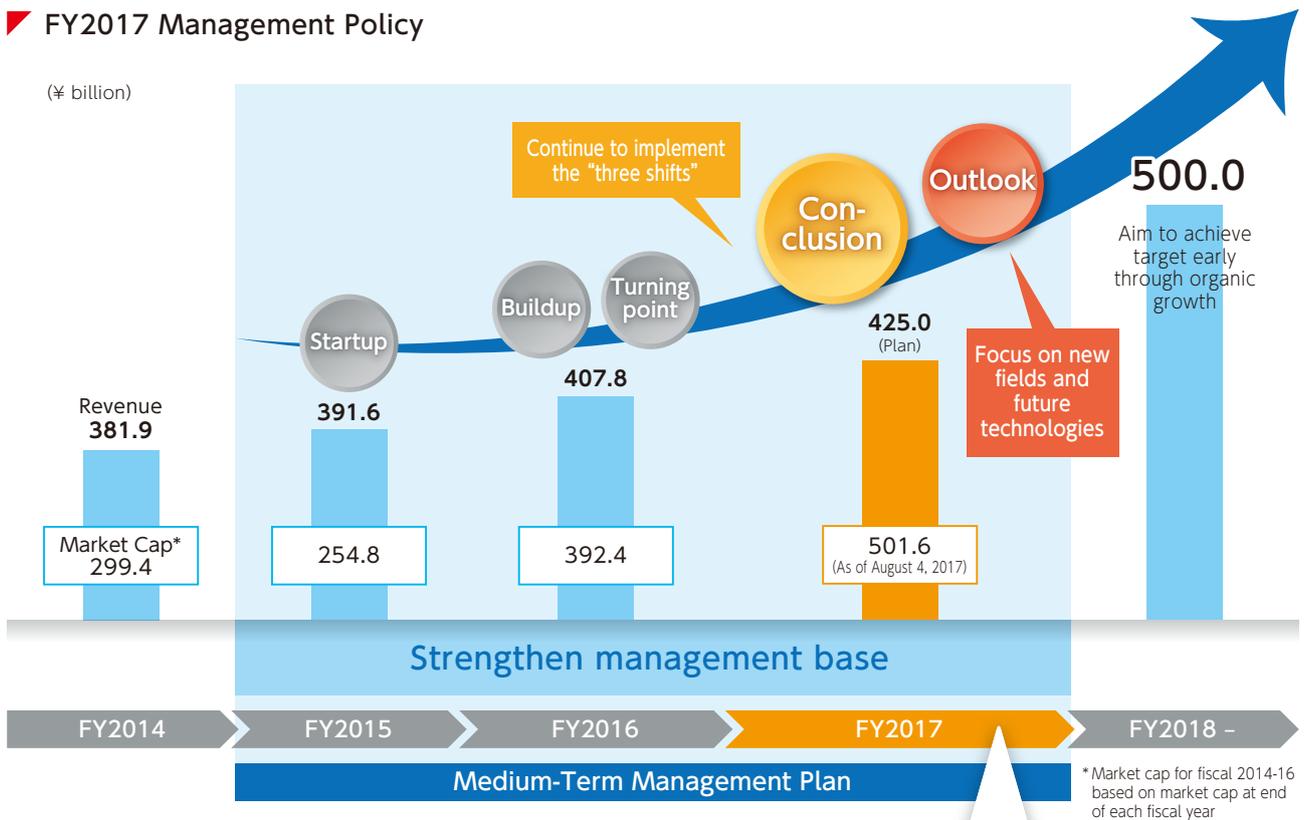
We announced a new three-year Medium-Term Management Plan in fiscal 2015. Under the plan, we are aiming to drive the evolution of the IT industry as the leading company. In fiscal 2017, the final year of the current Medium-Term Management Plan, we will continue to focus on implementing our three shifts. We will also target new business fields and future technologies to lay the groundwork for the next Medium-Term Management Plan.

▀ Fiscal 2015-2017 Medium-Term Management Plan



FY2017 Management Policy

(¥ billion)



Conclusion

Continue to implement the "three shifts"

Reinforce cloud integration services

- Step up sales of CUVICmc2
- Build our position as a cloud integrator

New developments in maintenance, operation and BPO businesses

- Grow the maintenance business using SMS/Avail series
- Support operation of core systems at key clients, win new BPO business

Expand our business in the ASEAN region

- Start up operations in Indonesia

Outlook

Focus on new fields and future technologies

SDN, NFV ⇒ 5G

- Keep pace with projects involving SDN and NFV, which will be key technologies in the 5G era

SAP + CUVICmc2

- Reinforce SAP technical capabilities
- Strengthen competitiveness to win major projects, such as hybrid partnerships involving on-premises teams
- Implement projects that integrate CUVICmc2

Starting up Institute of Open Innovation Research "MIRAI"

- Create new business models using the latest technologies

Strengthen management base

Continuity of control on unprofitable projects

Workstyle innovation Phase 2

Bed down and improve recently introduced systems

Aim to expand remote working

Continue to increase shareholder returns

Message from the President



Satoshi Kikuchi

President & CEO

We will continue to implement our “three shifts” and move into new business fields, aiming to realize our vision for CTC: take responsibility for the evolution of the IT industry, as the industry’s leading company.

Marking the 10th anniversary of our merger

Fiscal 2016 marked the 10th anniversary of the merger between ITOCHU TECHNO-SCIENCE Corporation and CRC Solutions Corporation, which led to the creation of ITOCHU Techno-Solutions Corporation (CTC).

Prior to the merger, ITOCHU TECHNO-SCIENCE Corporation grew its business by selling hardware, databases and other products and by building and maintaining IT infrastructure for clients. Through partnerships with leading vendors in Japan and overseas, the company quickly identified innovative new products and services and sold them to clients in line with their specific needs. That business model remains firmly embedded in CTC today. CRC Solutions Corporation grew its business by developing software applications, providing data analysis services and operating data centers for clients. Targeting a new phase of growth, ITOCHU TECHNO-SCIENCE and CRC Solutions decided to merge in fiscal 2006. The merger created a total solutions provider capable of supporting clients in all facets of IT systems – from product sales to the construction, development, maintenance and operation of IT infrastructure. Initially, combining two different corporate cultures to generate synergies proved very difficult.

Since my appointment as President, everyone in the Group has worked hard to increase corporate value by building a truly integrated company. Fiscal 2016 was the year when those efforts started to bear fruit, with the Company reporting record revenue, profits and orders received and a record-high backlog.

CTC's strength is its ability to turn risks into opportunities

Fiscal 2016 results underscored CTC's unique strengths as a company

In fiscal 2016, equity market investors again showed confidence in CTC's focus on products and the telecommunication sector – two areas that have been an

area of concern in the past.

The Group's revenue can be divided into three business models: services, SI development, and products. Products generate roughly 40% of total revenue, a high ratio for a system integrator. As explained above, the products business has played a key role in our growth and development as a company, but the equity market has seen our high sales weighting for products as a risk. As commoditization spreads to IT products and IT services shift to the cloud, falling sales from products is certainly a concern.

However, our long track record in IT products means we have become experts in identifying promising new technologies. CTC has also built up a unique ability to bring those technologies together in ways that best suit our clients.

The Group's revenue has been growing steadily in recent years and rising product sales have been part of that trend.

We are likely to see a range of new products from companies worldwide, driven by advances in IT. That means our clients will still need us to rapidly identify the best IT products and integrate them into their systems.

We plan to continue addressing those needs by leveraging our unique position in the sector.

Our exposure to the telecommunication sector has also been seen as a risk by the equity market.

The telecommunication business group accounts for nearly 40% of the Group's total revenue. Some investors have said CTC's business model is unbalanced because of that exposure to the telecommunication sector. The decline in capital investment by telecom carriers from a peak in 2012 is regarded as another risk.

However, data traffic on the Internet continues to grow each year, supported by advances in telecommunications technology, the rapid uptake of smartphones and tablet devices and the emergence of a wide range of new software applications. More recently, we are seeing an accelerating shift to IoT and autonomous driving across various industries. Commu-

Message from the President



nication networks will be vital to ensure those new systems become a reality, suggesting that the telecommunications sector is set to become even more important in the future.

We have been steadily implementing various steps to take advantage of those trends, which we view as a business opportunity. We believe our efforts are paying off, illustrated by the Group's firm sales in the telecommunication sector over the last few years.

The price-to-earnings ratio (P/E) is a benchmark used to calculate the value of stocks. I think the ratio is also a good indicator of how attractive companies are to equity market investors. About a year ago, CTC's stock was trading on a P/E ratio of around 14–15x, lower than other companies in our sector. Since then, the ratio has risen to about 20x. I believe that shows the market has reacted positively to our performance in the products business and the telecommunications sector, which were previously seen as risk factors.

CTC has of course also worked hard in other areas during the last year. We have been focusing on turning risks into business opportunities and creating new earnings streams. Under our current Medium-Term Management Plan, we are targeting further

growth by building new sources of earnings. In the next section, I would like to talk about the progress we have made with the plan.

Medium-Term Management Plan

(Fiscal 2015 – 2017)

Fiscal 2017 is the final year of our current Medium-Term Management Plan. Under the plan, we are targeting further growth by establishing a new earnings base, aiming to realize our vision for CTC: take responsibility for the evolution of the IT industry as the industry's leading company.

Based on the plan's basic management theme of "three shifts," we have been expanding our service-type business, leveraging Groupwide strengths to reinforce the client base, and actively investing in growth.

▀ Fiscal 2016 review

Fiscal 2016, the plan's second year, was positioned as the "buildup" and "turning point" phase.

In the "buildup" phase, we worked to further strengthen initiatives implemented in fiscal 2015, the plan's first year, focusing on:

- New management synergies
- Lift off for new services
- M&A deals

To promote management that generates internal synergies, we implemented a major overhaul of our organization, which included realigning the Group's business segments. We also reinforced our ability to handle large-scale projects by flexibly allocating human resources and worked to win more business from key clients. As part of the reorganization, we combined the Distribution Systems Group and the Enterprise Systems Group into a single business group. The integration has enabled distribution systems engineers, who are strong in application development, to participate in development projects in enterprise systems, opening the door to new business opportunities.

In efforts to lift off new services, we launched

CUVICmc2, a new backbone system optimized for cloud services that is secure and cost-effective. A total of 11 companies have decided to adopt the system. We also expanded our menu of system maintenance and operation services with two new services: Avail-I, which automatically detects faults in clients' IT systems, reduces the operational impact of maintenance work and shortens the system recovery timeframe, and Avail-ProE, which takes that support to a higher level by predicting system faults and latency.

In M&A deals, we continued to search for promising targets.

The next step in our Medium-Term Management Plan is the "turning point" phase.

In the context of the plan, "turning point" means implementing new initiatives. Specifically, we:

- Implemented new systems to spur local innovation
- Rolled out advanced technologies
- Moved into phase 2 of our strategy to grow our global business

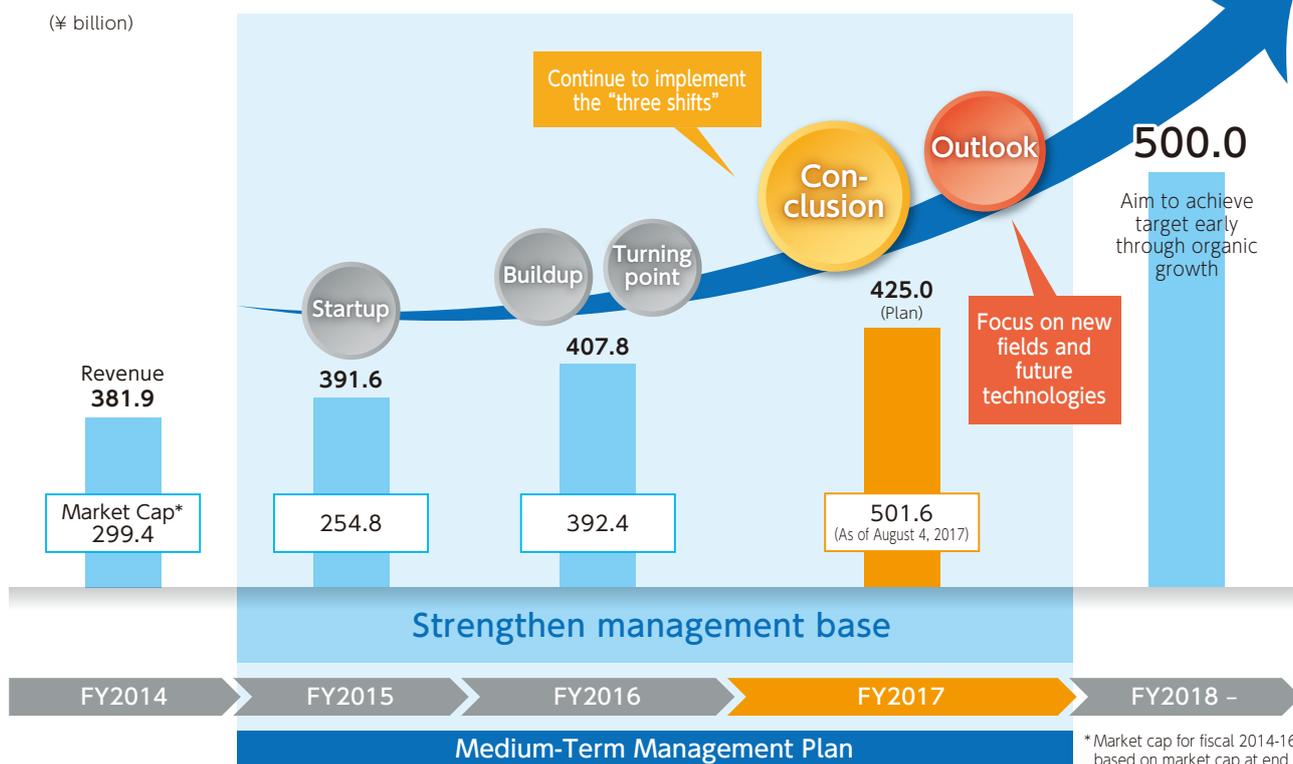
In terms of systems to spur local innovation, we established the Public and Regional Business Group in April 2016, which is working to win more business from local governments and strengthen partnerships with local companies.

In advanced technologies, we are focusing on OpenStack, an open-source software platform for cloud computing, and the Open Compute Project (OCP), which aims to design and develop optimal hardware for large-scale data centers. We also pushed ahead with business projects using network virtualization technologies such as software-defined networking (SDN) and network function virtualization (NFV).

The shift to open source products and virtualization has been accelerating in recent years and new development approaches are coming to the fore. We plan to focus on these new fields as areas where CTC can leverage its strengths.

In phase 2 of the strategy to grow our global business, we are aiming to expand our operations in

■ Medium-Term Management Plan (Fiscal 2015 - 2017)



Message from the President

the ASEAN region. As part of that strategy, we focused on establishing a new business base in Indonesia.

▀ Fiscal 2017 management policy

As noted above, fiscal 2017 is the final year of our Medium-Term Management Plan. Under the plan, we are targeting “two 500 billions”: revenue of ¥500 billion and market capitalization of over ¥500 billion. Due to slower-than-expected progress with M&A deals, we have pushed back our revenue target to fiscal 2018 at the earliest. However, we achieved our target for market capitalization on August 4, 2017 (¥501.6 billion).

Fiscal 2017 has been positioned as the “conclusion” phase. Specifically, we will continue to focus on implementing the “three shifts” – the plan’s basic management theme. In the plan’s “outlook” phase, we will focus on new business fields and future technologies to lay the groundwork for the next Medium-Term Management Plan (see diagram on page 16 for more details). In the “conclusion” phase, we will:

- Strengthen our position as a cloud integrator
- Develop the maintenance, operation and BPO businesses
- Expand our business in the ASEAN region

In the “outlook” phase, we will:

- Focus on SDN and NFV to prepare for the 5G era
- Combine SAP and CUVICmc2
- Start up the Institute of Open Innovation Research “MIRAI”

Looking at the main initiatives in more detail, we plan to strengthen our position as a cloud integrator by offering a range of new services that leverage our existing technical capabilities in cloud services. Since launching our first cloud initiatives in around 2008, we have built up a solid track record in public cloud services such as IaaS and SaaS and in private cloud services for individual companies, supporting steady growth in sales (See bar chart on right).

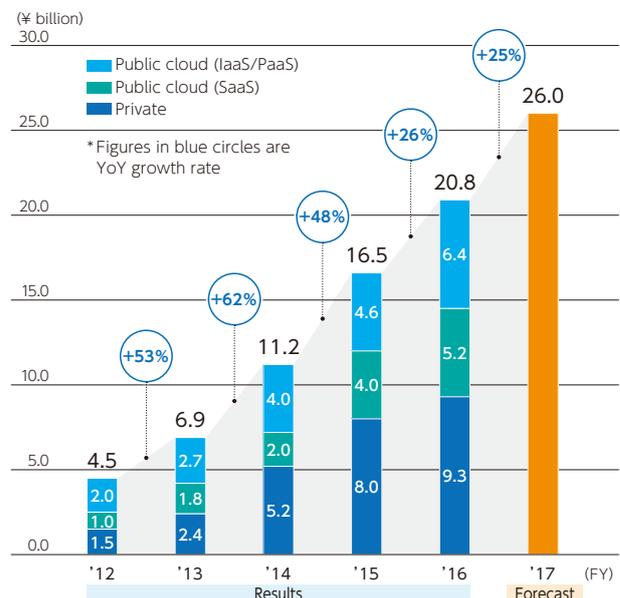
To expand our business in the ASEAN region, we are exploring opportunities in new areas, aiming to build a presence for the Group across the key ASEAN market to capture any potential business opportunities.

To prepare for the 5G era, we are focusing on

software-defined networking (SDN) and network function virtualization (NFV). IoT initiatives are gathering pace, particularly in the manufacturing sector, and faster, higher-capacity communication networks will be crucial to support further advances in IoT. The shift to IoT will lead to dramatic growth in the type and number of connected devices, so carriers will need to build flexible networks that are compatible with a wide range of devices. Mobile phone carriers have already started work on 5th generation (5G) networks, which are expected to take off from 2020. Network virtualization technologies such as SDN and NFV are likely to play a key role in making those 5G networks a reality. CTC has supported mobile phone carriers’ networks since the 1990s. Using that experience, we will focus on building virtualized networks for 5G infrastructure.

Lastly, I would like to talk about initiatives related to the Institute of Open Innovation Research “MIRAI”. A number of new technologies have appeared on the scene in the last few years, such as AI, IoT and FinTech. We have heard a lot about these technologies, but many clients are struggling to actually embed them in their businesses. In response to that challenge, end-users (clients), IT companies like CTC, startup

■ Cloud service sales



companies and leading IT experts are increasingly turning to open innovation as a way of pooling ideas and technologies to create new business models. We are also tapping into that trend, launching the CTC Future Factory in June 2017 as a platform for open innovation. CTC Future Factory provides opportunities and spaces to rapidly create new ideas, helping to turn those ideas into viable businesses. Using that approach, we will work with clients across different companies and sectors to develop future services and solutions that help solve some of the issues faced by society today. That is the mission of the Institute of Open Innovation Research "MIRAI".

Reinforcing our business base

Adopting new work styles

When I was appointed President in 2012, I was surprised by the large amount of overtime worked by our employees. Given that childcare and nursing care are likely to become serious problems in Japan, I believe CTC needs to tackle the pressing issues of excessive overtime and diverse working styles.

We have already made progress with workstyle reforms, implementing a range of initiatives each year since fiscal 2014, when we launched a morning-focused working system and introduced a new principle to ensure employees leave the office by 8:00pm.

These initiatives have been recognized by third parties, with CTC selected as a member of the 2017 White 500 in the large enterprise category in February 2017. The White 500 is run by Japan's Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi and recognizes companies that are leaders in health and productivity management.

We will continue to tackle work styles reforms as a key management issue going forward.

→ For more details about our work styles reforms,

See [the section about cultivating personnel who can change society for the better on P51-56](#)

Corporate social responsibility

Creating value through our business activities

As part of our corporate social responsibility, we signed up to the United Nations Global Compact in fiscal 2015, making a commitment to 10 principles in four key areas: human rights, labor, the environment and anti-corruption. In September 2015, the United Nations General Assembly adopted the Sustainable Development Goals (SDGs), raising expectations worldwide that companies will play a greater role in solving issues faced by society today.

In March 2016, we identified material topics (materiality) that the CTC Group should tackle in its CSR activities. We have organized the topics into nine items in three categories and are working to tackle them through our business activities. By addressing those areas, we will also help to achieve the SDGs.

As a company that uses its business activities to help solve issues faced by society, we are firmly committed to constructive dialog with all stakeholders in order to deliver continued growth in corporate value.



Message from the CFO



We are working to increase corporate value by continuing to invest in growth fields and focusing on shareholder returns as a key part of our capital policy.

Toru Matsushima

Director & Executive Vice President/
Assistant to the President & CAO
CFO & CCO
COO, Global Business Development

Overview of fiscal 2016 results

In fiscal 2016, the domestic economy continued to recover at a moderate pace, supported by firm corporate earnings and an upturn in the employment environment, despite an uncertain outlook overseas due to concerns about slower growth in China and other emerging Asian economies and uncertainties surrounding the policy outlook in the US.

The business climate was also favorable in the IT market, with investment recovering in the manufacturing, financial and distribution sectors.

In fiscal 2016, we reported record-high consolidated orders received, revenue and profits, and the backlog reached a record level. Fiscal 2016 also marked our third consecutive year of record net profit attributable to CTC's shareholders, or profit after tax. As a result, ROE was 11.8%,

also the third straight year that ROE has exceeded 10%.

Revenue increased ¥16.2 billion year on year to ¥407.8 billion, driven by growth in business from clients in the distribution, manufacturing and telecommunication sectors. Operating income rose ¥3.1 billion to ¥31.1 billion, supported by the growth in revenue and an improvement in the gross profit margin, leading to an increase in gross profit, which exceeded a rise in other income and expenses. Orders received increased ¥39.2 billion year on year to ¥437.5 billion, amid strong demand from the distribution, telecommunication, public and utilities sectors. Fiscal 2016 marked the 10th anniversary of the merger between ITOCHU TECHNO-SCIENCE Corporation and CRC Solutions Corporation. Results for the year under review highlight how we have created a strong, integrated Group since the merger a decade ago.

Consolidated financial highlights

	'15	'16	YoY Change	'17 Forecast
Revenue	391.6	407.8	+16.2	425.0
Gross profit	91.5	96.7	+5.1	101.0
Gross profit margin	23.4%	23.7%	+0.3p	23.8%
Other income and expenses	(63.5)	(65.5)	(2.0)	(68.5)
Operating income	27.9	31.1	+3.1	32.5
Operating income margin	7.1%	7.6%	+0.5p	7.6%
Net profit attributable to CTC's shareholders	18.0	21.8	+3.8	22.5
Orders Received	398.3	437.5	+39.2	430.0
Backlog	208.3	238.0	+29.7	243.0
ROE	10.4%	11.8%	+1.4p	Exceeds 10%

(¥ billion)

▀ Fiscal 2017 business plan

We expect the domestic economy to continue recovering at a moderate pace in fiscal 2017, supported by rising corporate earnings, an improving employment environment and the impact of government policies. However, we will continue to monitor the situation overseas, where there is some uncertainty surrounding the policy outlook in the US and Europe.

In the IT market, we anticipate continued firm investment in IT, centered on the finance, manufacturing and distribution sectors. We also forecast a modest recovery in the telecommunication sector.

Against this backdrop, we will continue to expand our service business, leverage Groupwide strengths to reinforce the client base, and actively invest in growth. We will also focus on new business fields and future technologies to lay the groundwork for the next Medium-Term Management Plan.

For fiscal 2017, we are targeting consolidated revenue of ¥425 billion, operating income of ¥32.5 billion and net profit attributable to CTC's shareholders of ¥22.5 billion.

▀ Investing in growth

Investing in growth through M&A and capital investment is a key policy in our current Medium-Term Management Plan.

We are using capital investment mainly to develop new cloud services to grow our service business, expand and strengthen our data centers, upgrade the Group's backbone systems to boost operating efficiency, and invest in other IT systems. With M&A deals, we continue to look for promising targets that will help expand our service business, reinforce our application development resources and increase our presence in the ASEAN region. When forging M&A deals, final investment decisions will be based on multiple perspectives, such as the target company's compatibility and synergies with the CTC Group and its profitability and growth potential, in line with internal investment criteria.

Also, our assumption is that capital expenditure and investment in M&A will not exceed cash reserves.

(Background) CTC's investment criteria

We use a holistic approach when assessing M&A targets and other potential business investments, based on quantitative criteria such as the number of years needed to reduce losses, the size of profits and investment efficiency, as well as our own predetermined qualitative standards.

We use the net present value (NPV) method to measure investment efficiency, which is calculated using the discount rate below.

*NPV discount rate (expected rate of return) = CTC cost of capital + size premium + country risk premium

▀ Shareholder returns

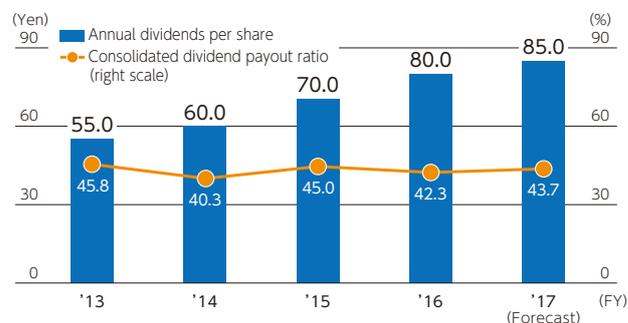
Returning profits to shareholders is one of our main considerations at CTC. Our basic policy is to pay stable dividends in line with earnings performance. We are currently targeting a consolidated dividend payout ratio of around 40%.

Taking into account the Group's earnings performance, financial position, and other factors, we paid a full-year dividend of ¥80 per share for fiscal 2016, an increase of ¥10 year on year, resulting in a consolidated dividend payout ratio of 42.3%. We have now raised the dividend for eight consecutive fiscal years. For fiscal 2017, we plan to pay a full-year dividend of ¥85 per share, equating to a consolidated dividend payout ratio of 43.7%.

At the General Meeting of Shareholders on June 21, 2017, we received approval from shareholders to reduce the Company's capital reserve and transfer the amount to other capital surplus, giving us the scope to implement a more flexible, responsive capital policy.

Going forward, we will continue to employ a flexible capital policy focused on capital efficiency, while also taking into account funds needed to invest in growth and the level of internal reserves.

■ Annual dividends per share and consolidated dividend payout ratio



▀ Communicating with shareholders and other investors

CTC attaches great importance to communication with shareholders and other investors, actively implementing IR activities targeting those groups. In fiscal 2016, we held a total of 21 briefings for individual investors.

We also ran a number of events for institutional investors in Japan, such as visits to data center facilities and one-on-one meetings.

We also communicate regularly with overseas institutional investors through IR meetings in the US, UK and Asia and investor conferences in Japan.

We plan to use these activities to increase CTC's corporate value by drawing on suggestions and opinions from shareholders and other investors to improve the way we do business. I hope we can continue to count on your advice and support in the year ahead.

Directors and Auditors As of June 21, 2017



■ Back row, from left to right

Tadayoshi Yamaguchi

Director

Tatsushi Shingu

Director

Takahiro Susaki

Director & Managing
Executive Officer
COO, Public & Regional
Business Group

Tadataka Okubo

Director & Senior Managing
Executive Officer
COO, Advanced IT Strategy Group
In charge of Advanced IT Strategy
Group / IT Services Group
CTO, CIO

■ Front row, from left to right

Masaaki Matsuzawa

Director & Executive Vice
President
COO, Distribution & Enterprise
Group
In charge of Distribution
& Enterprise Group /
Telecommunication Group
/ Public & Regional Business
Group / Finance & Social
Infrastructure Group

Toru Matsushima

Director & Executive
Vice President /
Assistant to the President & CAO
CFO & CCO
COO, Global Business
Development

Satoshi Kikuchi

President & CEO



- 1 Satoshi Kikuchi
- 2 Toru Matsushima
- 3 Masaaki Matsuzawa
- 4 Tadataka Okubo
- 5 Takahiro Susaki
- 6 Makiko Nakamori
- 7 Toshio Obi
- 8 Tatsushi Shingu
- 9 Tadayoshi Yamaguchi
- 10 Shintaro Ishimaru
- 11 Hiroshi Takada
- 12 Toshiaki Tada

Shintaro Ishimaru

Corporate Auditor *2

Hiroshi Takada

Corporate Auditor

Toshiaki Tada

Corporate Auditor *2

Makiko Nakamori

Director *1

Toshio Obi

Director *1

1. Outside director as defined in Article 2, Item 15 of the Companies Act

2. Outside auditor as defined in Article 2, Item 16 of the Companies Act

Outside directors Makiko Nakamori and Toshio Obi, and outside auditor Toshiaki Tada are independent from CTC, our parent company and major suppliers. As independent officers, they have no inherent conflicts of interest with regular shareholders.

Dialogue with Outside Directors

Dialogue

Insights from outside directors about corporate governance at CTC

Improving the effectiveness of the Board of Directors



Makiko Nakamori
Outside Director



Satoshi Kikuchi
President & CEO



Toshio Obi
Outside Director

Good corporate governance is anchored by transparency

Kikuchi: I'd like to thank you first for taking on the responsibilities of outside directors. What are your impressions of Board of Directors meetings at CTC?

Nakamori: Meetings are characterized by open discussion, with participants encouraged to raise questions and speak their mind. Meetings sometimes touch on highly complex topics, but all questions and comments, no matter how simple, are taken seriously in discussions led by the President. That makes it easy for the meetings to get to the heart of any matter.

Obi: I agree about the open nature of board meetings. The IT sector is seeing major technological advances on an almost daily basis in areas such as cloud computing, IoT

and AI, so I think companies have to react even more quickly than in other sectors. My impression is that CTC is working hard to respond quickly to those changes.

Kikuchi: Thank you for that. I believe we need to provide as much information as possible to ensure you have a better understanding of CTC. As part of that approach, the Corporate Planning Division and nonexecutive directors have formed a liaison group to share information. As you both know, the group discusses some technical topics. Does the contact group help you make more informed contributions at board meetings?

Obi: The IT sector is my specialist field, but it's still hard for me to understand all the developments in the CTC Group, so the contact group is an important source of information. Similarly, our contacts with the Board

of Corporate Auditors help us keep up to speed with what's going in the Group.

Kikuchi: Ensuring transparency is the first step in effective corporate governance. For example, if outside directors want to meet employees in the front line of operations, we'll do everything to accommodate that request.

▀ Representing the interests of shareholders

Kikuchi: What's your view on the role of outside directors?

Nakamori: My long-held view is that outside directors need to keep the interests of shareholders in mind at all times. While it might be difficult for the company to regularly communicate with minority shareholders, outside directors can stand in for them at board meetings and represent their views during discussions. I believe we have an important role to play in representing the views of stakeholders from outside the company, rather than having the final say in internal debates.

Obi: The more I've taken part in board meetings, the more I believe my role is to represent the interests of shareholders in corporate governance and communicate those interests to the Company. All shareholders want to see the share price and dividends increase, and I'm sure many also want the company they have invested in to play an important role in society. I want directors to consider these points during board meetings. Whenever I get the sense that the Company is losing sight of shareholder interests, I step in and put forward their views more forcefully.

Kikuchi: That's right. Presenting different viewpoints and opinions can create tension, but that tension is an important part of open discussion. That leads to suggestions about trying different approaches, spurring fresh thinking



about our business. That's different to posing questions about why we follow certain approaches, which are easier to answer but don't force us to think deeply about how we conduct our business. The different viewpoints presented by outside directors create more lively discussions involving all members of the board.

▀ Improving the effectiveness of the Board of Directors

Kikuchi: We've overhauled the Board of Directors since I was appointed President in fiscal 2012. At the time, the board had 13 members and 11 of them also sat on the Management Committee. In other words, most directors also had executive roles. Since then, we have steadily reduced the number of people on the board to nine. Of them, only five are now involved in business execution. Do you have any other ideas about how to improve the board's effectiveness?

Nakamori: CTC's company regulations state that any topic discussed by the Management Committee then has to go up to the Board of Directors for discussion. As outside directors, we don't take part in Management Committee meetings, but I understand that discussions

Dialogue with Outside Directors

on certain topics can be very heated. As part of that process, I think it would be helpful if the Board of Directors was told about the background to the discussions in the Management Committee, including different sides of the debate. By hearing the views of directors responsible for business execution in each division, we would gain a deeper understanding about the Group's business strategy and direction. I plan to actively ask questions on this point in future meetings.

Obi: That reflects the bottom-up decision-making process of Japanese companies, doesn't it? All the different teams under the Management Committee make their own separate decisions, and those decisions gradually coalesce as they move up the chain of man-



／ Makiko Nakamori – Profile

April 1987	Joined Nippon Telegraph and Telephone Corporation (NTT)
October 1991	Joined Asahi & Co. (now KPMG AZSA LLC.)
April 1996	Registered as Certified Public Accountant
July 1997	Appointed Head, Nakamori CPA Offices (current post)
August 2000	Appointed Auditor, Oracle Corporation, Japan
December 2006	Appointed Auditor, istyle inc. (current post)
August 2008	Appointed Director, Oracle Corporation, Japan
March 2010	Appointed Auditor, GLOBAL-DINING, INC.
September 2011	Appointed Auditor, JADE, Inc. (now LOCONDO, Inc.)
December 2011	Appointed Auditor, M&A Capital Partners Co., Ltd. (current post)
June 2013	Appointed Director, ITOCHU Techno-Solutions Corporation (current post) Appointed Auditor, NEXT Co., Ltd. (now LIFULL Co., Ltd.) (current post)
November 2015	Appointed Auditor, TeamSpirit Inc. (current post)

agement to the Board of Directors. In the US and Europe, they tend to follow the opposite approach. The Board of Directors conducts thorough discussions and then decisions are passed down through the business. Japanese companies are still reluctant to follow that more dynamic approach. Put another way, US and European firms have to implement decisions made by the board. Japanese companies avoid that approach, with the board able to act as a kind of rubber-stamp committee because it is backed up by a solid decision-making process. Each approach has its merits, but I think cultural and social factors mean Japanese companies don't really need to introduce the top-down approach if it doesn't suit them. However, I think we could design a happy medium by drawing on the best parts of the top-down and bottom-up approaches, potentially leading to even faster decision-making.

Kikuchi: Toshio Obi, I'd be interested to hear your views as somebody who's involved in research in your main job as a university professor.

Obi: Earlier, I talked about the role of outside directors. I believe I have a duty to ensure a good balance between theory and real-world business thinking. While companies focus on day-to-day business, university professors tend to put priority on the theoretical side of companies and the economy. But I believe we can make the Board of Directors more effective if we can skillfully combine both sides. That's the kind of role I see myself fulfilling as an outside director.

▀ Improving productivity and overcoming labor shortages

Kikuchi: What specific themes would you address through that mix of theory and business?

Obi: In my research, I'm currently focusing on the issue of productivity. Labor productivity at Japanese firms is lower than at counterparts in the US, Europe and Asia. The government is working to address this through workstyle reforms and other initiatives, but the situation is unlikely to change unless each worker adjusts their own mindset. Researchers are discussing this topic, but I think we can make progress by bringing theory and business closer together to solve the issue.

Nakamori: I agree. Raising productivity is a key issue. Changing the topic slightly, I'm also an outside director for several venture companies. What I noticed at those firms is that they are compensating for a lack of human resources and funds by using innovative approaches to deliver growth. I think those companies can give us some insights into how we can increase labor productivity. Examples include making full use of ICT and cloud platforms, and introducing personnel systems that allow flexible working. CTC has already made progress in those areas, but we can do more.

Kikuchi: Labor productivity has been an issue in Japan for some time now. In fiscal 2014, we introduced the morning-focused working system and other measures to reduce overtime. Surprisingly, the amount of overtime work has declined but the quality of work has not. That suggests our employees may have been working late just in case clients needed support in the evenings. That sincere desire to help clients, which is embedded in our workforce, has allowed us to provide real value, but it also weighed on productivity. We also have to change the way we work because of the growing shortage of workers in our industry. Other sec-

tors are already changing. More businesses are introducing IT systems and tools, but ultimately, people are still needed to carry out work, and the IT sector is no exception. I believe the labor shortage is likely to trigger some changes. The key question is how do we respond to those changes?

Obi: The IT sector could face a severe shortage of highly skilled engineers after the Tokyo Olympics. The conventional view of the IT sector is that hours are long and engineers have to work late into the night. To dispel that image and attract and cultivate skilled engineers, we need to think long term.



／ Toshio Obi - Profile

July 1973	Appointed Program Planner, United Nations Development Program
January 1977	Appointed Senior Researcher, Center of Japanese Economy and Business, Columbia University
April 1980	Appointed Adviser, Communications and Information Network Association of Japan (current post)
April 1988	Appointed Executive Adviser, Japanese Minister of Labor
April 2001	Appointed Professor, Waseda University (current post)
April 2002	Appointed Director, Institute of e-Government, Waseda University (current post)
May 2004	Appointed Director, APEC e-Government Research Center (current post)
May 2006	Appointed Chair, National e-Government Promotion Council, Ministry of Internal Affairs and Communications (current post)
September 2008	Appointed President, International Academy of CIO (current post)
August 2009	Appointed Senior Specialist, IT Strategy Division Evaluation Committee, Cabinet Office
January 2011	Appointed Senior Adviser to United Nations ITU Secretary General
January 2012	Appointed Chair, ICT Super-aging Society Design Council, Ministry of Internal Affairs and Communications
June 2014	Appointed Director, Itochu Techno-Solutions Corporation (current post)

Dialogue with Outside Directors

Implementing management reforms to support global expansion

Kikuchi: What management issues does CTC face over the medium to long term?

Obi: As CTC's business expands and becomes more diverse, we need to think about how best to reduce information security risk. My view is that we have to be ready to fight fires at any time. The whole CTC Group needs to address this issue of information security, under the leadership of President Kikuchi. Another key issue for the medium to long term is overseas expansion. CTC currently runs businesses in Malaysia, Singapore, Thailand and other markets. CTC has also decided to move into Indonesia as part of its global strategy, centered on the ASEAN region. As the Group expands overseas, it's important to use an overall global supply chain approach, rather than thinking about countries individually. We also need to keep shareholders and other investors informed about our global strategy going forward. To support that strategy, we have to train personnel who can flourish overseas.

Kikuchi: I completely agree. I personally spent 10 years overseas, so I'm well aware of the risks

involved with overseas expansion. We started focusing on global expansion in 2013, but it's taken time to get our overseas operations on track, partly because our business had been focused on Japan until that point. We need to learn from our experiences so far to drive the Group's growth overseas.

Nakamori: I think CTC needs to improve its business oversight capabilities for the whole Group as it expands overseas. As President Kikuchi mentioned, business risks in overseas markets are greater than in Japan. To mitigate those risks, over the medium to long term CTC needs to build a strong governance framework for the whole Group, including overseas subsidiaries. I look forward to discussing the specifics of that framework at board meetings.

Kikuchi: Discussions by the board largely determine the direction of the Group, so we need to draw on opinions from as many people as possible from outside the Company to push forward debate. Creating the necessary environment to foster open discussion will be crucial. Thank you both for your valuable input today. I look forward to hearing your forthright contributions, positive or negative, at future board meetings.

Reasons for Appointment of Outside Directors and Auditors

Category	Name	Independent Director	Reason for Selection	Attendance of Board Meetings	Attendance of Auditor Meetings
Director	Makiko Nakamori	○	First appointed as a director in June 2013, Makiko Nakamori has been reappointed due to her invaluable contribution to the Company's management based on her highly specialized and extensive knowledge of finance and accounting as a certified public accountant.	15/16	—
	Toshio Obi	○	First appointed as a director in June 2014, Toshio Obi has been reappointed due to his invaluable contribution to the Company's management based on his highly specialized and extensive knowledge of information systems as an academic researcher.	16/16	—
Corporate Auditor	Toshiaki Tada	○	First appointed as a corporate auditor in June 2012, Toshiaki Tada has been reappointed based on his highly specialized knowledge as a lawyer and his ability to appropriately audit the executive duties of the Company's directors.	15/16	13/13
	Shintaro Ishimaru		First appointed as a corporate auditor in June 2013, Shintaro Ishimaru has been reappointed to appropriately audit the executive duties of the Company's directors, drawing on his experience in management at ITOCHU Corporation and his high level of expertise in information systems.	16/16	13/13

Special Feature

Feature

CTC Future Factory

A platform for open innovation at the Institute of Open Innovation Research "MIRAI"

Companies are harnessing society's digital transformation to create a whole host of new businesses. They are teaming up with venture companies in Silicon Valley, Japan and other countries, as well as with publicly funded research bodies, in open innovation* projects to rapidly transform the latest advances in IT into new businesses.

Against this backdrop, our Institute of Open Innovation Research "MIRAI" has launched the CTC Future Factory - an open innovation platform that provides a full package of support to help clients turn their business ideas into reality.

The CTC Future Factory also connects companies and public agencies with venture companies to develop new ideas. Using the platform, we hold ideathons* and hackathons*, identify and support joint research projects and business startups and encourage interaction between teams in different industries. To facilitate cooperation, we opened the DEJIMA innovation space as a key part of the CTC Future Factory in autumn 2017.

US Group company ITOCHU Techno-Solutions America, Inc. also plans to set up an Open Innovation Lab, which will work closely with DEJIMA to support open innovation on a global scale.

CTC Future Factory: Four Roles

Space (innovation space)

- Workspaces for corporate innovators
- Residency for startups and business accelerators
- Support platforms (cloud, AI, IoT* and other resources)



Engineering (prototype development)

- Agile* and scrum development approaches
- Joint prototype development
- Hands-on advanced technology development
- Ideathons, hackathons



Producing (sector partnerships and matching)

- Business partner matching
- Venture capital matching
- Advice from startups and business accelerators

Community (community and events)

- Communities for innovators
- Events to encourage interaction between different industries
- Market research (people networks)



*See P76 for more explanation

Innovation space DEJIMA



DEJIMA is a shared activity space and event venue that can accommodate more than 100 people.

Group work area for hackathons, ideathons and workshops

Project room for prototype development

Advanced technology exhibition space



Main Business Growth Strategy

Distribution & Enterprise Group



Number of employees
(as of April 1, 2017)
1,409

Masaaki Matsuzawa

Director & Executive Vice President
COO, Distribution & Enterprise Group
In charge of Distribution & Enterprise Group / Telecommunication Group / Public & Regional Business Group / Finance & Social Infrastructure Group

► Our Vision

Use our newly integrated business structure to help clients capture new earnings opportunities

Business Climate

- Recovery in IT investment, centered on the manufacturing sector
- Growth in omnichannel retailing, which combines distribution and IT
- Companies stepping up initiatives in IoT* and big data*
(Shifting from defensive IT investment to proactive IT investment)

Strengths Provision of integrated support and services

- Application development for small-scale data systems through to back bone systems
- Network and server infrastructure construction
- Comprehensive operation of those systems

Growth themes

- Respond to developments in cutting-edge technologies ahead of competitors
- Develop solutions using our industry expertise

► Main Client Sectors

Manufacturing

Distribution

Trading Companies

Transportation

Services

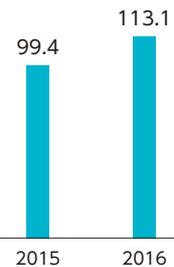
Fiscal 2016 Results

In fiscal 2016, we completed the integration of the former Distribution Systems Group and the former Enterprise Systems Group. Our new organization is now capable of providing total solutions covering everything from the construction of system infrastructure and application development to system maintenance and operation. We are also better positioned to optimally deploy personnel to support major projects. In the fiscal year under review, the newly combined Distribution & Enterprise Group worked hard to leverage the advantages of its integrated business structure. Highlights included the development of private cloud applications for clients in the transport sector, the development of next-generation backbone systems and retail store IT systems for the distribution sector and a number of major projects in the manufacturing sector. Those projects supported strong growth in both revenue and profits compared with the previous fiscal year.

Orders received (¥ billion)



Revenue (¥ billion)



Initiatives in Fiscal 2017

Under further organizational reforms implemented in April 2017, Group company CTC LIFE SCIENCE CORPORATION (CTCLS) was integrated into our business group to improve service provision in the health tech field. Companies in the life science field, which covers drug discovery and medicine, and the healthcare field, which includes disease prevention and medical treatment and nursing care, are increasingly turning to IT tools to grow their businesses. To address this trend, we aim to expand our presence in these fields by combining the specialist life science and healthcare solutions offered by CTCLS with our long track record and expertise in the construction of large-scale systems and emerging technologies such as cloud systems, AI and IoT.

Building on initiatives launched in fiscal 2016, the Distribution & Enterprise Group will continue to reinforce its security business and help corporate clients develop their health management programs.

In fiscal 2017, we will further strengthen internal teams and systems to address rising demand for security solutions.

In health management, we will continue to focus on employee health management, which includes efforts to prevent poor health in the workforce and ensure compliance with health laws and regulations, while also

targeting two other types of health management: IT health management, which refers to IT system security and appropriate investment in systems, and corporate health management, which involves compliance and company health checks to ensure clients are capable of rapidly creating and disclosing financial statements.

We are putting systems in place to support companies' total health management needs, such as software applications that increase operational efficiency, development efficiency tools and cloud infrastructure.

We also plan to build a new ERP business, drawing on experience gained from introducing SAP SE's ERP product S/4 HANA in our own backbone system and those of our clients in the distribution sector.

In addition to focusing on those new business areas, we will strengthen our capabilities in the increasingly important field of multicloud integration, aiming to help clients build their digital businesses as their key partner.

Medium-term Outlook

Amid the gradual upturn in the economy, Japanese manufacturing firms are increasingly upbeat about investing in proactive IT.

Companies are stepping up initiatives in a number of areas: connected cars, supported by the shift to 5th generation mobile communications infrastructure (5G), which will support faster, higher capacity networks, multiple device connectivity and ultra-low latency; the use of AI and robotics in production lines and maintenance; embedded IoT technology that allows companies to remotely monitor products and predict performance; increased use of simulation technology and augmented reality (AR) technology in the CAD* field; and use of AI in the drug discovery research field.

In the distribution and retail sectors, companies are starting to make use of new technologies such as AI and AR to create new customer experiences. They are also turning to AI and robotics to address labor shortages in store operations.

Many companies are also looking to IT to boost business efficiency in response to workstyle reforms that address increasingly diverse ways of working. Businesses are also using IT to improve product development and service quality and to strengthen collective creativity across their organizations.

As companies step up efforts to create new earnings opportunities by combining IT in ever-more complex ways, the Distribution & Enterprise Group will draw on its advanced technologies and business relationships to develop integrated optimized solutions that help clients overcome their unique challenges.

In the IoT era, our clients will need to work creatively with partners who have expertise across various fields in order to generate new business value. We aim to play a key role in helping our clients create the necessary ecosystems.

*See **P76** for more explanation

► Case Study 1

Building a new Internet environment using cloud network solutions

The Distribution & Enterprise Group has built a new Internet environment for a network of service stations operated by Usami Koyu Corporation. With the new environment, the Internet is integrated into service station operations and staff can also use Wi-Fi to access the Internet via a private LAN network. Service station customers also have access to a secure, free Wi-Fi network.

To deliver this project, we selected Cisco Systems' Meraki routers, which combine router and Wi-Fi functions, helping us to build a low-cost, dual access system.

The Meraki range is also cloud-managed, allowing system administrators to remotely monitor and manage traffic at each connection point and device, making it easier to manage the network.

► Case Study 2

Using IoT to develop commercial vehicle tracking services

The Distribution & Enterprise Group has developed a new service for an automotive sector client that wanted to increase the satisfaction of its commercial vehicle customers.

The new service gathers a wide range of information about commercial vehicles in real time, such as breakdown locations, positioning and telemetry related to dangerous driving. That information is analyzed and provided to transport companies and other fleet operators via a website, email and other channels.

Our client's latest vehicles are fitted with onboard SIM devices as standard. Information gathered by the devices is combined and stored in a data integration system, built by CTC in 2015. The new service has been designed to effectively utilize this data resource.

Going forward, we plan to work with other clients to increase corporate value by developing new services that leverage the power of IT.

Main Business Growth Strategy

Telecommunication Group



Number of employees
(as of April 1, 2017)
677

Yasuhiko Terada
Managing Executive Officer
COO, Telecommunication Group

► Our Vision

Harness cutting-edge technologies and our wealth of experience to create next-generation communication networks that support the development of society

Business Climate

- Dramatic growth in data traffic on mobile communication networks
- Accelerating efforts to roll out 5G mobile communication systems by 2020

Strengths

- Specialist builder of large-scale infrastructure to support communication networks
- Skilled in developing high-value-added services that utilize the latest technologies
- Expertise in operation of mission critical systems

Growth themes

- Rapidly respond to technological innovation
- Attract and train high-value-added human resources

► Main Client Sectors

Telecom carriers

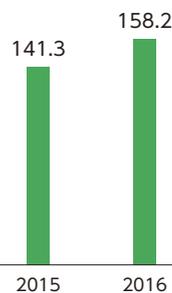
Online service providers

Fiscal 2016 Results

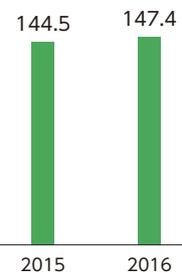
Amid wider uptake of smart devices and increased use of mobile content services, the Telecommunication Group benefited from strong demand from mobile carriers to expand the capacity of their mobile networks. There was also firm demand for projects to expand the capacity of Wi-Fi and other fixed network-based services to address growth in mobile data offloading*.

We also saw growth in projects using network virtualization technologies such as SDN and NFV – an area the Telecommunication Group has been working on for several years – and infrastructure construction projects optimized for new services using IoT* and big data.

Orders received (¥ billion)



Revenue (¥ billion)



Initiatives in Fiscal 2017

The volume of data traffic on mobile networks is growing at a faster pace, driven by the roll out of LTE services and the rapid uptake of smart devices, which is spurring growth in social media, video streaming and other content.

The use of fixed network broadband services also continues to increase due to growth in data offloading by users, upgrades to Wi-Fi services for overseas visitors to Japan and other trends. Amid this continued growth in data traffic, users want telecom carriers to provide ubiquitous, convenient network access. Telecom carriers, including the rapidly growing MVNO segment, also face intensifying competition for customers, putting them under pressure to develop new services that set them apart from competitors.

The Telecommunication Group will continue to support telecom carriers' infrastructure and equipment investment programs by leveraging its long track record in building large-scale infrastructure and its experience in managing carrier grade systems*. Using AI, IoT, big data and other emerging technologies and IT security services that capitalize on our strengths as a multivendor supplier, we will also work with clients to address and tackle social issues such as regional innovation and disaster prevention, and provide infrastructure for high-value-added services that support the creation of more convenient means of communication.

Medium-term Outlook

The telecommunication sector is working toward the launch of 5th generation mobile communication standards (5G) in 2020. The new standards will create faster, higher capacity networks with low latency and enable a larger number of simultaneous connections at a single node. With many industries starting work on IoT, communication networks will need to handle a vast increase in the number and type of devices connecting to data networks, in addition to capacity for conventional communication tools such as phones and email. The new 5G networks will facilitate the collection of data in real time from autonomous vehicles, wearable medical devices, sensors embedded in industrial machinery and products and other endpoints, and will cover areas such as the condition of living organisms and natural phenomena. Analyzing and utilizing that data will create new economic value and 5G networks are expected to play a key role in making that IoT era a reality.

To help build 5G networks, the Telecommunication Group will rapidly embrace promising new technologies that are likely to underpin next-generation networks, such as SDN and NFV, and work with mobile carriers on field testing programs. We will also build a team of full-stack engineers who have the broad skill sets required to create 5G infrastructure.

The social infrastructure role of communication networks is also set to undergo major change. Amid this shift, mobile phone carriers will have to develop new services, as well as provide stable, high-quality communication environments, driving a transformation in their business models. We will need to utilize our expertise in a wide range of sectors to help mobile carriers build those new business models through a process of collective creativity. By combining the CTC Group's capabilities across all phases of the IT cycle with the latest technologies, we aim to create innovative services and business models that increase corporate value for our clients.

*See **P76** for more explanation

▶ Initiatives

Network virtualization for 5G infrastructure

Human resources training

Many companies in Japan are working to develop businesses that utilize IoT, AI, big data and other recent advances in technology. Those businesses are driving growth in the different types and volume of data transmitted over networks, spurring dynamic transformations in data traffic. As a result, network infrastructure needs to be more flexible to adapt to change.

To address those challenges, mobile carriers are currently working on a number of promising technologies, including 5th generation mobile communication systems (5G) and network virtualization technologies such as SDN and NFV.

The Telecommunication Group aims to capture business opportunities from those trends by training personnel, investigating and researching new technologies, working with clients on test projects and launching new businesses. Training our engineers in network virtualization technology is a particularly urgent issue.

Network virtualization covers a whole range of skills, from algorithms and programming language to the OpenStack* software platform. Engineers typically acquire these skills separately, but the Telecommunication Group is training its engineers using an integrated program focused on NFV. To support that program, we are using a range of domestic and overseas partners to acquire access to the latest technologies and products, giving our engineers the opportunity to directly interact with emerging technologies during training.

Our goal is to ensure CTC remains competitive in the new network era and partner with mobile carriers to support Japan's communication infrastructure.

▶ Glossary

Software-defined networking (SDN)

Technology that can flexibly and rapidly adjust network configurations through centralized management of routers, switches and other network components using a single software package.

Network functions virtualization (NFV)

Virtualization technology that replicates network functions on standard servers. Currently, network functions are typically integrated with specialist servers, but NFV has the potential to virtualize network functions on standard servers without the need for specialist hardware.

Main Business Growth Strategy

Public & Regional Business Group



Number of employees
(as of April 1, 2017)
361

Takahiro Susaki

Director & Managing Executive Officer
COO, Public & Regional Business Group

► Our Vision

Helping to revitalize regional economies by combining IT with business ideas to tackle local issues

Business Climate

- Growth in IT investment spurred by deregulation of electric power market
- Increased use of IT to develop Japan as a tourism-oriented country
- Adoption of IT tools by the agriculture and fisheries industries

Strengths

- Business know-how accumulated through work with local governments, regional banks, power companies and other clients
- Network of partner companies covering all regions

Growth themes

- Planning and proposal from the customer's view
- Value creation through business planning and consultation

► Main Client Sectors

Regional Companies

Central Government Ministries

Local Governments

Regional Banks

Power Companies

Gas Companies

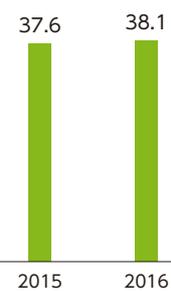
Fiscal 2016 Results

The Public & Regional Business Group was formed in fiscal 2016 to create a stronger regional business that is better placed to support regional innovation. Working closely with our IT partner companies in regional markets, we focused on network projects for public agencies, particularly projects aimed at enhancing security for local governments. We also actively worked to win business in the services field, including a cloud service project in the pharmaceutical sector that allows our client to access files whenever and wherever they want. And we stepped up efforts to develop our business relationships with key existing clients, such as power companies, telecom carriers affiliated to power companies, regional banks and manufacturers. With Japan set to host the summer Olympics and Paralympics in Tokyo in 2020, we also laid the foundations for future business growth by meeting with key government departments to showcase solutions that help to reinforce terrorist warning systems.

Orders received (¥ billion)



Revenue (¥ billion)



Initiatives in Fiscal 2017

Reinforcing our regional business is a key initiative in the three-year Medium-Term Management Plan launched in fiscal 2015. We have already made progress in this area, building up considerable experience in providing various consulting services and constructing and operating IT systems for local companies, as well as power companies, telecom carriers affiliated to power companies, regional banks, public agencies and universities. We are also focusing on solutions that reinforce local government security, systems that utilize public and private data, identity management systems (IdM) that manage user IDs, passwords and other information on networks, and solutions that support the creation of digital businesses such as IoT* services that connect physical objects to the Internet.

The Public & Regional Business Group will implement initiatives and draw on its experience in these fields to provide solutions that support client businesses from multiple perspectives, helping them to rapidly and effectively solve any issues they face in their operations. We also plan to use CTC Future Factory, our open innovation platform, and DEJIMA, our shared innovation space, to create new businesses by partnering with external companies and groups.

We aim to further leverage our strengths as a

business group with a presence in all parts of the country by transferring our wealth of experience and expertise to regional clients across Japan.

Medium-term Outlook

Japan's shrinking population is an issue that needs to be tackled urgently, but the population is projected to fall at an even faster rate in regional areas than in cities. Workstyle reforms, which are designed to boost labor productivity and address increasingly diverse ways of working, are seen as one way of overcoming those issues. IT is expected to play a vital role in reforms. Specifically, we expect regional banks and local governments to increase labor productivity by using AI, RPA* and other IT tools in routine tasks, allowing them to shift personnel to activities that generate higher value.

Teleworking, which gives employees flexibility about when and where they work, is also likely to gain ground. Using teleworking and other approaches to increase business efficiency and productivity should make it easier for regional companies and organizations to attract highly skilled personnel and build a more diverse workforce, helping to promote the appeal of regional economies and create new businesses that drive growth in regional employment.

IT tools such as IoT and big data* also hold the key to regional innovation. For example, in the energy field, electricity market deregulation and advances in smart grid technology are opening up possibilities for new digital businesses, such as customer support services that utilize power usage data. At the same time, the IT systems that support those new types of business will need to be robust enough to fend off malicious cyber attacks, driving the need for IT strategies that carefully balance proactive IT and defensive IT.

To address those challenges and developments in regional markets, the Public & Regional Business Group will build systems and step up personnel training to boost client satisfaction and help clients increase corporate value, aiming to develop proposals that address issues from client perspectives and that stimulate regional economies.

*See P76 for more explanation

▶ Case Study

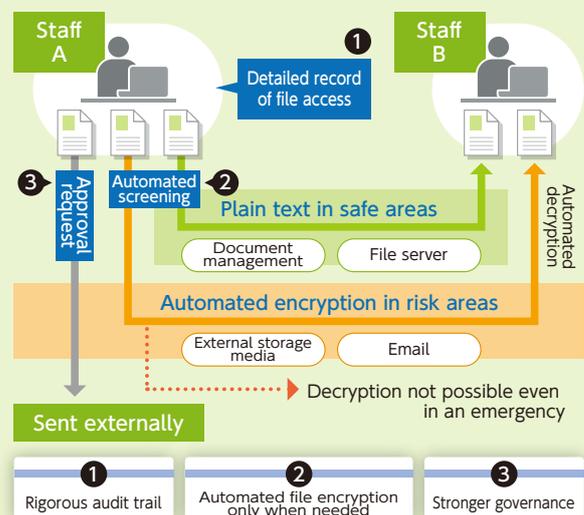
Building a data leak prevention system for Tokyo's Ota Ward and Ichihara City

Following the launch of Japan's "My Number" national identification number system in 2016 and a string of high-profile data breaches in Japan and overseas, public agencies are demanding systems with even higher levels of security. The Public & Regional Business Group has built data leak prevention systems to help Tokyo's Ota Ward and Ichihara City address those issues.

Data breaches in companies and other organizations are often caused by cyber attacks, but in many cases, incorrect operation of equipment, poor information management and other human error is also to blame. Our system uses Security Platform, a data leak prevention solution developed by Humming Heads Inc., to prevent data breaches by automatically encrypting any data taken outside the organization, regardless of the system user's intentions. A key feature of the system is that data is automatically encrypted and decrypted as needed, so plain text (unencrypted data) is used internally, ensuring there is no impact on related systems and roles within the organization. The system also has high-grade activity trail functions, a limited impact on end-users and a short installation timeframe, resulting in a flexible yet robust security environment for clients.

Going forward, we plan to use our depth of expertise and the latest technologies and solutions to offer advanced security packages capable of countering the latest security threats.

■ Overview of Security Platform Capabilities



Main Business Growth Strategy

Finance & Social Infrastructure Group



Number of employees
(as of April 1, 2017)
518

Eiji Haraguchi
Managing Executive Officer
COO, Finance & Social
Infrastructure Group

► Our Vision

Help clients increase corporate value and support Japan's critical social infrastructure with IT

Business Climate

- Financial institutions are adopting new international regulations and accelerating global expansion
- Increased investment in FinTech as financial services become more diverse
- Growth in IT investment spurred by deregulation in the electricity and gas markets

Strengths

- Ability to develop business applications for the financial sector
- Capacity to build large-scale infrastructure for the utilities sector
- Partnership with BELLSYSTEMS24 Holdings in the contact center field

Growth themes

- Reinforce our ability to handle large-scale system operation outsourcing
- Create new services that increase corporate value for clients
- Attract and train IT professionals who can drive innovation in the market

► Main Client Sectors

Banks

Securities companies

Credit card companies

Postal service providers

Power companies

Insurance companies

Fiscal 2016 Results

In the financial field, revenue declined in some business areas due to a pullback in large projects for leading banks booked in the previous fiscal year, but business was firm overall, supported by backbone system upgrade work for credit card companies and infrastructure construction projects. In the public utilities field, we put in successful bids for large projects that are likely to contribute to revenues from fiscal 2017. We continued to develop existing businesses and also focused on planning and promoting new services, such as administration and marketing cloud services and next-generation contact sector services that utilize AI.

Orders received (¥ billion)

48.9 51.8

2015 2016

Revenue (¥ billion)

51.2 50.3

2015 2016

Initiatives in Fiscal 2017

► Finance

Using our track record in system integration (SI), we have won a bid for a large-scale infrastructure construction and system operation project for a government-affiliated bank. We plan to push ahead with the project in fiscal 2017. We also aim to help clients in the financial sector deal with the increasingly complex and diverse regulatory environment in Japan and overseas by leveraging our experience in risk management – one of our strengths in the Finance & Social Infrastructure Group. As leading banks accelerate their global expansion plans, we will help them extend systems developed for the domestic market into Asia.

► Credit card companies

We plan to upgrade our C-ARCS backbone system for existing credit card company clients and enhance our new subscription settlement services for affiliated stores, such as improved security features compatible with PCIDSS* and an outsourced authorization service designed to reduce charge-back risk. We will also improve our data analysis technologies for digital marketing, enabling the analysis of big data* gathered from the growing number of settlement methods.

► Public utilities

We aim to complete a large-scale infrastructure construction project and improve our ability to handle total system operation needs, including the operation of software applications on systems previously constructed by the Finance & Social Infrastructure Group. Also, amid deregulation in gas and electricity markets, public utilities are likely to invest in IT to create new services in order to attract new customers. We will develop new applications and reinforce related services to tap into those trends.

▶ **Service business**

We will offer services in each business field to help clients maximize corporate value. Examples include our LiveAssist service, which allows clients to communicate with their customers in real time by controlling their browsers via the Internet, and our eMotion service, which distributes one-on-one video packages with content optimized for individual viewers. We plan to offer hybrid cloud services that integrate existing services with legacy systems at clients, and strengthen our multicloud technologies, which bring together multiple cloud services.

Medium-term Outlook

▶ **Finance**

As major banks complete backbone system integration projects, investment in related IT systems is likely to pick up. We plan to target business in large-scale infrastructure construction projects and application development projects. We will also help Japanese banks comply with financial regulations at overseas branches in each country, providing support using RegTech that draws on our strengths in risk management. In addition, we will provide global support for major banks, including their local subsidiaries in the US, Europe and Asia.

▶ **Credit card companies**

Credit card companies are pushing ahead with plans to create a cashless payment environment for overseas visitors to Japan in the lead up to the Tokyo Olympics in 2020. That will likely require major upgrades to infrastructure. We plan to capture related demand by supporting credit card companies' various system needs, from infrastructure construction and application development to system operation outsourcing.

▶ **Public utilities**

We will help public utilities create a decentralized system environment, using our expertise in the construction and operation of large-scale systems to support the shift to dispersed systems, which is being driven by the separation of power generation and transmission functions in the electricity generation sector. Leveraging know-how from those projects, we plan to offer optimum storage environments and responsive analysis environments to handle the large increase in data from newly introduced smart meters.

▶ **Service business**

We aim to upgrade our AI-based automated response services for contact centers and offer business optimization services centered on RPA* and BPO*. We will also continue to target new areas, such as subscription services that use the cloud to link existing services and related systems.

The Finance & Social Infrastructure Group will supply systems and services that contribute to clients' corporate value while continuing to adapt to their changing needs and business environments. Our goal is to change future for the Global Good by using IT to support Japan's critical social infrastructure.

*See P76 for more explanation

▶ **Initiatives**

FinTech and RegTech Initiatives

The spread of the Internet is spurring growth in new types of financial services called FinTech*, which is attracting increasing attention in the financial sector. In this sidebar, we look at CTC's proactive efforts in the FinTech field and the related area of RegTech.

● **FinTech (Financial Technology)**

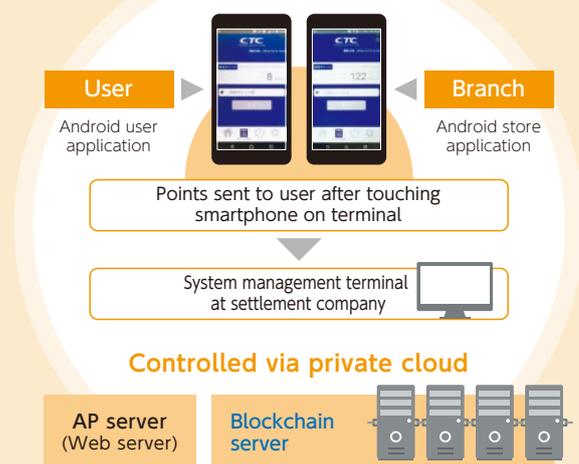
In fiscal 2016, we ran a number of test projects with leading financial institutions to ascertain the effectiveness of new FinTech services. In one project, we created a prototype loyalty point system based on blockchain technology and verified the system's stability, processing speed and other performance parameters. Our pilot tests showed the system can be used in a practical setting. In another project, we set up a demonstration system comprising three different linked robots in bank teller windows, giving bank customers an insight into investment advice services provided by robots.

● **RegTech (Regulation Technology)**

Financial institutions are subject to a large number of regulations enforced by the BIS*, Financial Services Agency and other regulatory bodies in Japan and overseas. IT that helps companies comply with those regulations is called RegTech. Regulatory compliance is one of our strengths in the Finance & Social Infrastructure Group. We have a particularly strong track record in market risk (quantifying risk related to bonds, foreign exchange markets, etc.), delivering systems to megabanks and many other customers in the sector. More recently, we have started supplying systems capable of handling even larger volumes of data for FRTB* and other requirements, as well as anti-money laundering systems.

Going forward, we will continue to focus on the FinTech and RegTech fields, drawing on the expertise of our large team of engineers with a detailed understanding of the financial services industry.

■ **CTC Loyalty Point System - Process Flow**



Main Business Growth Strategy

IT Services Group



Number of employees
(as of April 1, 2017)
489

Toshiyuki Awai
Managing Executive Officer
COO,
IT Services Group

► Our Vision

Contribute to client businesses by transforming the latest advances in IT into tools that anybody can use

► Mission

Identify and research cutting-edge technologies to develop and supply optimum IT environments for each client

Data center services

Outsourcing services

Cloud services

Security services

Product and maintenance services

Medium-term Initiatives

■ Supply the best infrastructure for client needs

Advances in products and technologies and the emergence of new ways of using IT, such as cloud services, are driving dramatic growth in the reach and importance of IT in our clients' businesses. At the same time, infrastructure that supports IT systems needs to meet various criteria for different types of business systems. Using the IT Services Group's experience and track record, we will combine the latest technologies, products and services to create optimum infrastructure for each client from a wide range of options in the cloud era, and supply system operation services, security services and data center services.

■ CTC's Cloud Services

Drawing on many years of experience and a long project delivery track record, the IT Services Group provides a range of proprietary cloud services optimized to infrastructure requirements. One example is CUVICmc2, a cloud service launched in fiscal 2016 that is specifically designed for backbone systems. This unique service meets the reliability criteria for backbone system infrastructure while also offering all the advantages associated with cloud services, such as a complete usage-based fee structure. In addition to proprietary cloud services, we provide services that combine the advantages of systems developed by other firms, such as Amazon Web Services (AWS), IBM Bluemix and Microsoft Azure.

We also use our expertise in cloud service infrastructure to build private cloud infrastructure for clients and cloud service infrastructure for service providers.

■ Total IT Management and System Operation Services

In system maintenance and operation services, we are drawing on our strengths as a multivendor and multiservice company to target further growth and higher margins. Specifically, we are shifting away from conventional product maintenance and operation to focus on the management and operation of entire IT systems, including cloud platforms, which are becoming increasingly complex.

System failures are having a growing impact on client operations and society as a whole, so systems need to be restored as quickly as possible after outages. We provide a number of services that further reinforce our existing infrastructure, such as Avail-I and Avail-ProE. With Avail-I, specialist support teams are automatically notified of system failures, allowing them to respond to issues immediately, reducing system downtime. Avail-ProE takes that support to a higher level by detecting potential signs of system failure before it happens, allowing our teams to take steps that prevent any downtime.

■ Security Business

Corporate IT systems have to be robust to defend against today's increasingly sophisticated and elaborate security threats, but they also need to be designed so that engineers can assess and respond to any damage in the wake of attacks. We therefore have to create systems with high levels of built-in security, while also maintaining operational security on a daily basis using system specialists who monitor and oversee operations.

In the IT Services Group, we are working to expand sales of security services to address the increasingly complex and advanced security needs of our clients. Specifically, we are sourcing and supplying new anti-threat products that utilize AI and other innovative new technologies, providing management security services (MSS*) that monitor and analyze systems, and supplying system construction and operational support services for computer security incident response teams (CSIRT) based at clients.

■ Initiatives in Advanced Technologies

The emergence of new technologies such as AI and IoT* is opening up more opportunities to develop new businesses and services. To tap into those trends, we are assessing and researching advanced technologies and looking at how they can be used in client businesses. We have established the Opened Advanced Technology LAB to train engineers and share expertise by encouraging greater communication. The facility is playing a key role in enhancing the skills of our engineers.

▶ Initiatives

AI Initiatives

Companies in various sectors are turning to AI to develop new services and improve business efficiency.

But due to the extreme complexity and sophistication of AI, many companies are struggling to train engineers and incorporate AI into their business operations.

To address those needs and challenges, we have teamed up with GRID inc., which has seen significant success with machine learning and deep learning framework ReNom, to develop and provide AI services and train AI engineers.

● Developing and providing AI services

One way companies can use AI is by powering deep learning and other technologies to uncover useful information in big data*, which can then be used to power new services and businesses.

GRID's ReNom platform can be used to develop deep learning, reinforcement learning and generative models, but it also incorporates a large number of algorithms that enable analysis of more advanced topological data. By combining those tools, ReNom users can create AI processes relatively easily.

ReNom is already used widely by industry in many different sectors and fields.

The IT Services Group aims to help clients introduce AI into their businesses by combining ReNom with CTC's comprehensive strengths in IT system construction and operation.

● Training AI engineers

AI engineers need a broad range of skills, such as data processing for big data and other information resources, statistical analysis and programming. To help our engineers acquire those skills, we are upgrading our training menu with AI modules in e-learning, on-the-job training (OJT) and other courses.

*See P76 for more explanation



Ideathon for AI-based services

Main Business Growth Strategy

Advanced IT Strategy Group



Number of employees
(as of April 1, 2017)
324

Tadataka Okubo
Director & Senior Managing Executive Officer
COO, Advanced IT Strategy Group
In charge of Advanced IT Strategy Group / IT Services Group
CTO, CIO

► Our Vision

Help to solve social issues and create an affluent, secure society for the future

► Mission

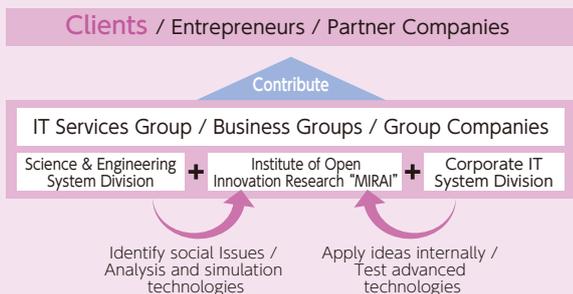
Discover and develop cutting-edge technologies and work with clients to use them to create new business models

Combine science and IT to help solve various social issues

Use advanced IT to lead innovation in work models and propose new workstyles

► Advanced IT Strategy Group's Collective Creativity Framework

Drawing on the strengths of its three divisions, the Advanced IT Strategy Group uses a collective creativity framework based on mutual support to create new value for the CTC Group and support the development of client businesses.



Medium-term Initiatives

The Advanced IT Strategy Group, which was created through a reorganization of the CTC Group in fiscal 2017, comprises three divisions: the Science & Engineering System Division, Institute of Open Innovation Research "MIRAI" and Corporate IT System Division.

Our Group has three main roles: uncover, exploit and develop advanced technologies from a medium- and long-term perspective, devise new application ideas for existing technologies and work with clients to build new business models.

■ **Advanced IT**

The IT sector continues to develop at an intense pace in areas such as computer processing power, IoT*, big data*, AI and robots. Those technologies are spurring a new wave of digitization, with the world's digital data projected to double every two years and AI on course to exceed human intelligence. Our role is to uncover the kind of new technology that will drive far-reaching change in our lives, industrial structure and employment market in the near future. We aim to harness those technologies in smart ways to build new environments.

■ **Business model innovation**

Advances in IT will change the way companies do business. Building on our existing approach of developing systems tailored to client businesses, we will work with clients to create new business models using the latest technologies. We aim to help clients accelerate digital innovation by bringing together IT resources and human resources skilled in lean startups and lean engineering and by combining operational technology (OT*) and information technology (IT) to develop new technologies.

■ **Work model innovation**

Japan's ageing and declining population is a major social issue. Also, with smart devices now an increasingly important part of social infrastructure and business becoming more digitized, CTC and other companies need to create work environments that put greater emphasis on diversity and make greater use of IT to raise business efficiency.

At CTC, we are using advanced IT to build new systems, aiming to create innovative work models that increase productivity and solve social issues. We plan to use this new workplace environment as a showcase for client environments and provide digital services that help clients realize their own work model goals.

■ **Institute of Open Innovation Research "MIRAI" (established fiscal 2017)**

The Institute of Open Innovation Research "MIRAI" will use the CTC Group's long-running partnerships with multiple vendors and its powerful links with US subsidiaries and the Itochu Group to identify the latest advances in AI and IoT technologies in Japan and overseas. Leveraging those technologies, the center will

use agile development teams to drive forward rapid development and launch a stream of new services, while working with clients to develop new business models.

The Institute of Open Innovation Research "MIRAI" has also launched CTC Future Factory - an open innovation platform. See page 28 for more details about CTC Future Factory.

■ Science & Engineering System Division

The Science & Engineering System Division will utilize the CTC Group's analysis technologies and scientific analysis system development technologies and expertise - built up over many years in the science and engineering fields - to provide solutions for various social issues in the domestic and global energy, manufacturing and social infrastructure fields.

The division will also link CTC's existing operational technology (OT), which is highly regarded in analysis processes in the science and engineering fields, with IoT and other IT to support more effective use of data. Our goal is to utilize the unique strengths of this division to create IoT that delivers real value to clients.

■ Corporate IT System Division

This Corporate IT System Division will use mobile devices and consumer IT such as social media, and leverage the latest advances in IT such as AI and robotics to install a pilot next-generation information system environment inside CTC. The system will be used to support a creative, motivated and flexible workplace for all employees.

The division will also work to establish and improve new workflow processes based on the Group's new backbone system implemented in fiscal 2017.

*See P76 for more explanation

▶ Initiatives

Accelerating Growth with Value-focused Businesses

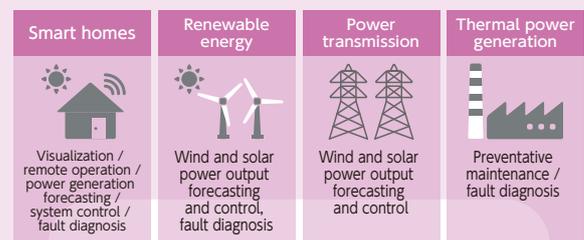
The Science & Engineering System Division is working to grow its high-value-added service business using analysis and simulation technologies, targeting the power generation, construction and manufacturing sectors.

In the power generation field, the division has developed a power facility fault prediction and forecasting system to support the increasingly important area of energy management. In the construction sector, the division provides a CIM service to manage the maintenance and prolong the useful life of large-scale structures such as dams and bridges, and in the manufacturing sector, it provides services that help users optimize product design and production processes.

Going forward, we will continue to combine science and engineering technologies and IT to create new services that help solve issues faced by society.

■ Power facility fault prediction and forecasting system

Output and demand forecasting and control / fault diagnosis / preventative maintenance services

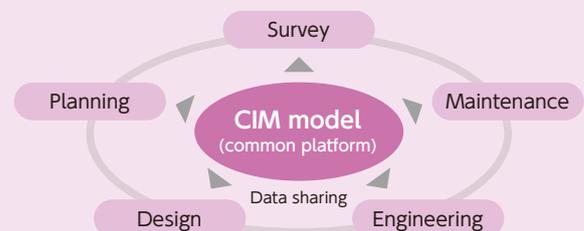


E-PLSM Energy Platform Simulation and Management

Shift to data centers (cloud services) Consulting / analysis and forecasting

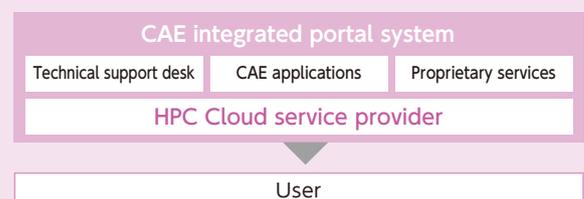
■ CIM* services

Services that support data sharing from product design and engineering through to maintenance



■ CAE* services

Proprietary CAE services using HPC cloud



Main Business Growth Strategy

Global Business



Number of employees
(as of April 1, 2017)
563

Toru Matsushima

Director & Executive Vice President / Assistant to the President & CAO
CFO & CCO
COO, Global Business Development

► Our Vision

Leveraging our track record to accelerate growth overseas, focusing on North America and ASEAN region

► Main Clients

- CTC Global (Malaysia) ► Financial institutions, manufacturers, healthcare companies
- CTC Global (Singapore) ► Financial institutions, healthcare companies, government agencies
- Netband Consulting (Thailand) ► Manufacturers, retailers, financial institutions
- ITOCHU Techno-Solutions America (US) ► Financial institutions, web-related service providers

Medium-term Initiatives

We are expanding our operations globally with a focus on North America and the ASEAN region.

In North America, we conduct research into the latest technological trends, such as AI, IoT* and security, and work to identify related business opportunities. We also provide system development, maintenance and operation services for financial institutions and have built a large-scale infrastructure platform based on Open Compute Project (OCP) standards for an Internet-related service provider. We plan to expand our business in North America by growing our SI business with Japanese-affiliated companies based in the US. To achieve that goal, each business group will work closely with CTC America on priority projects.

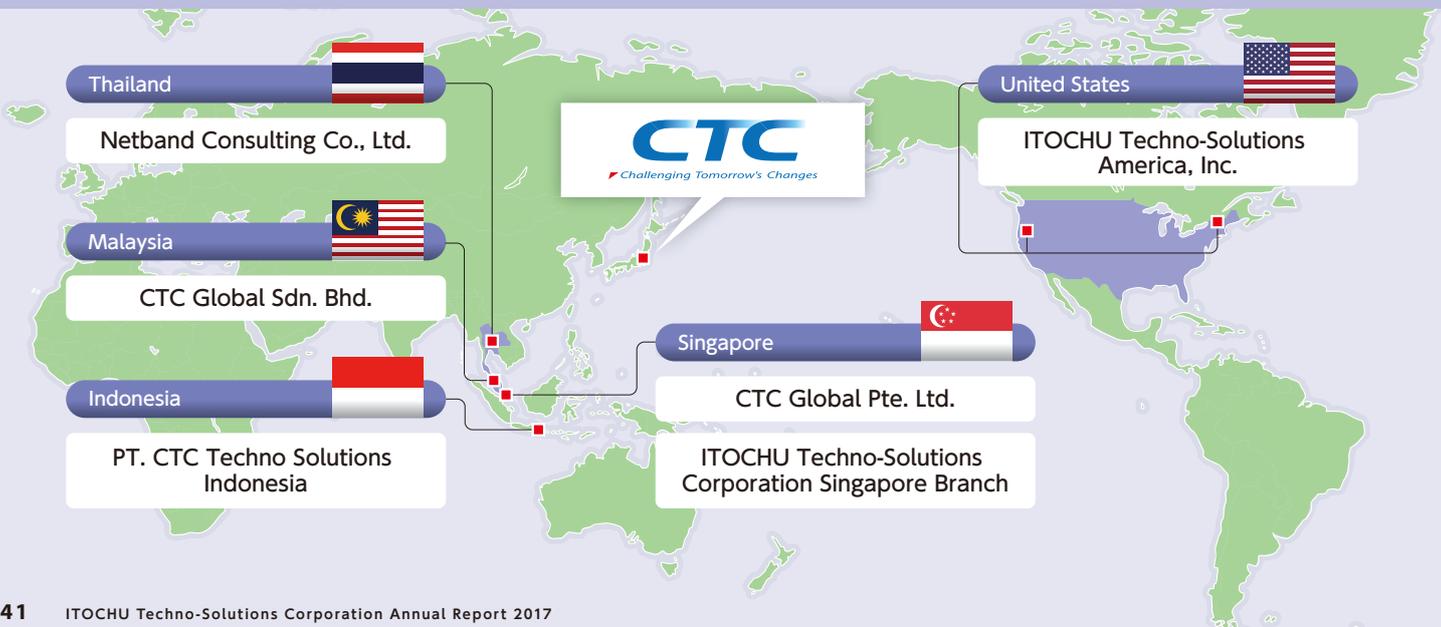
In the ASEAN region, we operate an SI business focused on infrastructure and provide maintenance and operation services for local clients and Japanese-affiliated companies, primarily in Malaysia, Singapore and Thailand. Targeting further growth, we are focusing on expanding our service business in the ASEAN region by providing cloud, security and other services.

We have positioned ASEAN as a strategic market in our plans for global expansion due to prospects for strong growth in the region's IT market. In addition to offices in the above three countries, we established a new office in Indonesia in July 2017 to extend our business reach in the ASEAN market.

We plan to grow our business in each regional market and encourage cooperation between CTC Group operations in Japan, North America and ASEAN to drive global expansion.

*See P76 for more explanation

► CTC's overseas network (As of August 2017)



CTC Group Uses Comprehensive Group Capabilities to Provide Total Support for Clients' IT Lifecycles

Maintenance & Operations Services

Maintenance & Operations Services provide a variety of necessary technological capabilities, from product maintenance to the management of infrastructure and operation of backbone system application and the ongoing management of data centers. Each operational specialization of CTC Group companies supports clients' IT lifecycles.

System Maintenance and Support Business

CTC TECHNOLOGY CORPORATION

Established: Apr 6, 1990

Leveraging the experience and expertise gained from operating a nationwide support system 24/7 all year round and proprietary services harnessing the latest IT, we aim to make an even greater contribution to client business continuity by offering solutions for IT system issues, in addition to resolving technical problems with standalone products.

System Operations and Support Business

CTC System Management Corporation

Established: Jul 1, 2008

Provides specialized operations services, such as satellite communications controls and the operation management of IT infrastructure, backbone systems and data centers for clients in the financial, distribution, telecommunications and manufacturing industries. Also carries out IT infrastructure construction, develops ERP-related software and provides maintenance services.

Data Center Facility Management Business

CTC FACILITIES CORPORATION

Established: Jul 7, 2000

Provides a wide variety of data center-related services, from data center facility operations management and construction consulting to IT service operations, with five CTC Group data center locations across Japan.

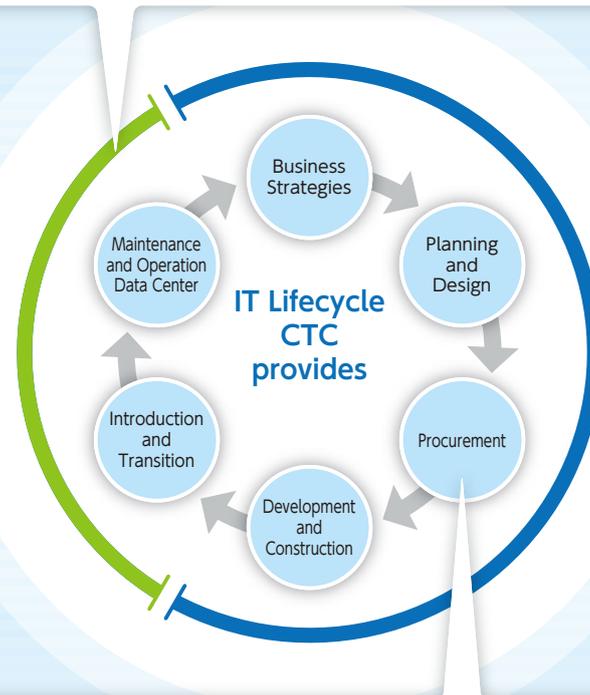
Contact Center and Helpdesk Services Business

CTC First Contact Corporation*

Established: Apr 1, 2000

Provides outsourcing services for helpdesk and contact center operations, education and training, manual development, and back-office services such as contracted business administration work, as well as total solutions combining these and other related services. The company is also aiming to expand its business further by working with CTC Group sales teams and enhancing service quality by securing the support center international certification program from the Helpdesk Institute.

* CTC First Contact Corporation became a joint company between CTC and BELLSYSTEM24 Holdings, Inc. on July 3, 2017.



Developing Businesses Specialized for the Client Companies and Industries

Develops business specialized for client companies and industries, providing systems developed for clients' unique operating processes and industry-specific solutions.

Asahi Business Solutions Corp.

Established: Jan 5, 1989

Since being established as an information systems subsidiary for Asahi Breweries, provides total solutions to the Asahi Group, from IT solutions planning, proposal and development, to maintenance and operations.

Product Sales Business

Laying out the framework to offer a variety of IT-related products and top global vendors to provide the best solutions to client needs.

CTCSP CORPORATION

Established: Apr 1, 1990

We supply infrastructure such as networks and storage products, as well solutions to address a wide array of client needs in areas such as security, data utilization, work style innovation and video streaming. The company is also a one-stop service provider of those products and related equipment, from purchasing and installation through to system construction and maintenance.

Value Creation and Material Topics

We are reinforcing our business base and tackling material topics to enhance the Group’s ability to create value

Sources of Value Creation



Signatory to the UN Global Compact

On July 20, 2015, the CTC Group joined the United Nations Global Compact, which aims to work with partners worldwide to create a sustainable society. Signatories commit to advancing societal goals in accordance with 10 principles in four key areas: Human rights, labor, the environment and anti-corruption.

Leveraging two key strengths – the ability to create new businesses with clients and the ability to build new businesses by harnessing IT – CTC has consistently provided optimal solutions tailored to client needs by selecting the best available options. These strengths are supported by the Group’s business base, which includes our teams of highly skilled engineers and a sound financial position.

To reinforce this business base and meet our environmental and social responsibilities, we have identified a number of material topics (materiality), which we are now working to address.

Materiality and Initiatives

1 Provide trusted IT services

Material topics

- 1 Ensure rigorous information security → See **P65** for more details
- 2 Improve quality → See **P45-50** for more details
- 3 Compliance → See **P65** for more details

2 Cultivate personnel who can change society for the better

Material topics

- 1 Conduct personnel development and training → See **P55-56** for more details
- 2 Promote diversity and change work styles → See **P55-56** for more details
- 3 Help cultivate people who can be a bridge to the next generation → See **P61** for more details

3 Harness IT to build a sustainable society

Material topics

- 1 Address issues related to an aging society → See **P57** for more details
- 2 Reduce environmental impact → See **P58-60** for more details
- 3 Contribute to regional economies → See **P53-54** for more details

→ For more details, please visit the CSR section of the CTC website

<http://www.ctc-g.co.jp/en/corporate/csr/policy/management.html>

The UN Global Compact SDGs

The UN Global Compact



Anti-corruption

SDGs



The UN Global Compact



Human Rights

Labor

SDGs



The UN Global Compact



Environment

SDGs



Sustainable Development Goals (SDGs)

The United Nations adopted a set of Sustainable Development Goals (SDGs) at the UN Sustainable Development Summit in September 2015. The SDGs comprise 17 goals designed to improve the lives of people and the planet by a target date of 2030. The goals have been universally adopted by international society, raising expectations that companies will play a role in achieving the targets. The CTC Group aims to help achieve the SDGs by addressing its own material topics (materiality).

1 Provide trusted IT services

Working with Clients and Business Partners

Materiality 1 - 2

CTC sources a broad range of products from leading IT vendors in Japan and overseas.

Working closely with development partners, we bring those products together to create optimal solutions for a wide variety of different client needs.

Improving quality

At CTC, we aim to provide high-quality services in order to increase client satisfaction. Based on this policy, we constantly strive to offer high-quality products and services that are reliable, secure and easy to use. This is an integral part of our business activities.

To ensure we continue providing these high-quality services, we have established a Groupwide quality management system based on ISO 9001 certification. By promoting quality management from the perspective of clients, we aim to lift quality levels and increase client satisfaction.

International quality management standard ISO 9001



Scope of Certification

- Design, development, delivery and maintenance of software systems in line with client requirements and support for operating those systems
- Analysis services and design, development, provision (sale) and maintenance of software (outsourced and packaged software)
- Construction of infrastructure based on client specifications (installation of hardware / installation, construction, design of infrastructure for application products)
- System operation and management services
- Product testing (Oracle, Cisco, NetApp)
- Development and implementation of Groupwide training plans

< Products >

The Heiwajima Logistics Center is the key facility in the Group's logistics operations, which play an important role in supporting quality in the Group's product sales business. The facility, which was relocated from Kasai to Heiwajima in 2015, is close to transport links and is fully equipped with security and BCP features. The Heiwajima Logistics Center handles product movements and storage, conducts inspections before shipment and delivers products to clients.

There is also an onsite kitting facility with sufficient power to handle the significant electricity consumption requirements of high-performance electrical equipment. Quality control begins with visual checks of products after arrival at the center, followed by inspections before shipment to ensure any issues are identified prior to being delivered to clients. The kitting facility can also be used to carry out further quality control checks as specified by clients.

Heiwajima Logistics Center



Layout



Aerial view

Workflow

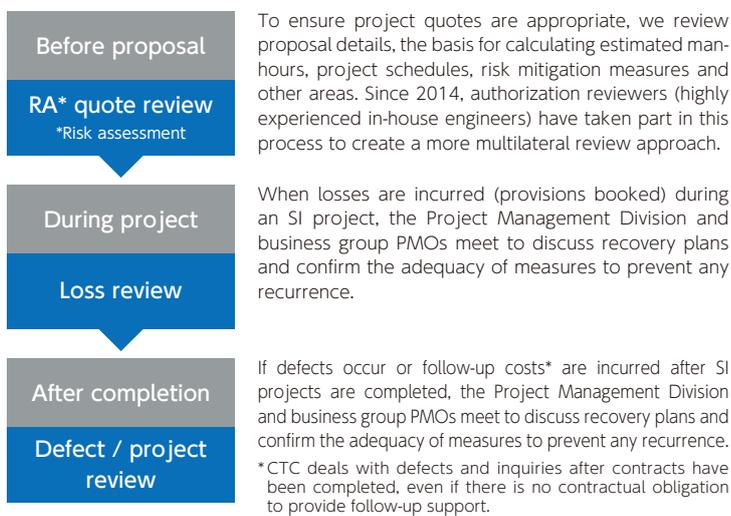


〈 Development 〉

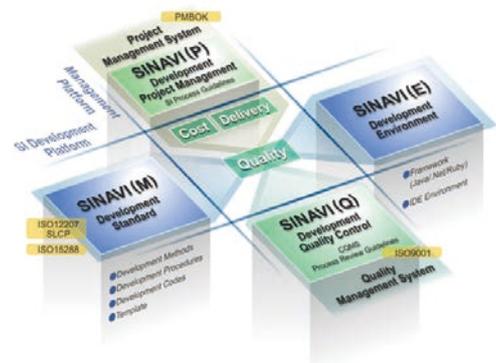
CTC is standardizing work processes to increase quality in development and to increase productivity. We have taken steps to standardize project management, quality management, development processes and the development environment under an SI standardized framework (SINAVI) and introduced it into system development projects. We are also encouraging our domestic and overseas partners to adopt the framework to drive quality improvements across the board. In addition, we have built a quality management system called CQMS that complies with

the ISO 9001 international quality management standard. CQMS incorporates a quality management system for SI (system development / infrastructure construction) and system operation and also sets out rules for quality team management and activities. To ensure our clients receive high-quality services, all business groups and the Project Management Division are implementing instructions from senior management to reinforce and improve quality enhancement activities based on CQMS.

■ Project management review process



■ SI standardized framework (SINAVI)



〈 Services 〉

Our IT service control activities, which cover all IT services provided by the CTC Group (system maintenance and operation services, cloud services, etc.), are designed to help minimize risk and raise quality by strengthening governance and control through the use of assessment, inspection and audit steps. These control activities comprise three parts – risk assessment meetings, design screening / service launch decisions and regular audits – and are aimed at reducing

risk and improving quality. We are also working to enhance quality by implementing human error zero (HEZ) activities, which are designed to limit mistakes by system engineers (SE) and customer engineers (CE), who are responsible for providing the actual service to clients.

SE and CE personnel are required to undergo *kiken yochi* (KY) training throughout the year to raise awareness of potential issues.

Increasing client satisfaction

CTC believes it is important to listen to clients and use their feedback to improve services. Based on that approach, the CS Improvement Committee leads efforts to increase customer satisfaction.

The CS Improvement Committee runs an annual client survey to ascertain whether CTC is meeting client expectations as their business partner and to identify any potential issues.

In the fiscal 2016 survey, we asked clients about our role as their business partner, with roughly 60% of re-

spondents replying that CTC was “irreplaceable” (ranked 4 or higher from a possible 5 levels). However, the survey also revealed that CTC has room to improve its proposal capabilities, an area we plan to strengthen going forward. Feedback and opinions from clients are used across the Group and within specific teams to help develop remedial measures, which are then incorporated into marketing and project activities. Going forward, we will continue to work on retaining our position as an “irreplaceable” business partner and on increasing customer satisfaction.

1 Provide trusted IT services

Working with leading it vendors

Combining vendor expertise with our system construction capabilities through close communication

One of CTC's strengths – our role as a multi-vendor, multi-solution and multicloud – is supported by partnerships with leading IT vendors in Japan and overseas. Since the first days of CTC, we have aimed to source global standard products as soon as they become available, helping us to deliver optimal solutions to many clients over the years. Based on that sales track record, CTC has secured top-level partner certification from many IT vendors and won numerous awards. We also have more vendor-certified engineers than many other IT companies in Japan.

CTC holds regular meetings with leading IT vendors in Japan and overseas. These meetings give us the opportunity to pass on the opinions of our in-house engineers and discuss client requests, helping vendors to develop higher quality products by responding to feedback from users. We also share information with vendors in areas such as new products, new projects and maintenance services. This process allows us to provide optimal solutions to clients by combining the expertise of vendors with our system construction capabilities.



Major vendors and CTC's award-winning results

Cisco Systems	Gold Partner <ul style="list-style-type: none"> Japan Award Japan Partner of the Year 2016 Enterprise Network of the Year
Dell EMC	Titanium Partner <ul style="list-style-type: none"> Dell EMC Business Partner Award 2017 All Flash of the Year 2017 Flash by Solution – VMAX Award Solution – EHC, Virtustream Award
HPE	Platinum Partner <ul style="list-style-type: none"> 2017 HPE Partner of the Year Awards Global Solution Provider of the Year 2017
IBM	Silver Partner <ul style="list-style-type: none"> IBM Choice Awards 2016 Top Transformational Partner—Japan

NetApp	Star partner <ul style="list-style-type: none"> NetApp Japan Partner Award 2017 Partner of the Year Support Partner of the Year NetApp University Award
Oracle	Platinum Partner <ul style="list-style-type: none"> Oracle Excellence Awards 2016 SPARC Server—Japan
VMware	Solution Provider Premier Partner <ul style="list-style-type: none"> Partner Innovation Award 2015 Solution Provider Partner of the Year (Global) Mobility Partner of the Year (APJ)

As of August 2017

Working with development partners

Rigorous information security, technology sharing with certified partners and support for personnel training

CTC has built a network of roughly 950 development partners in Japan and overseas to help us address the diverse needs of our clients. These companies support and strengthen the CTC Group's system development and construction capabilities.

In system development and construction, high levels of quality and productivity are obviously crucial. But protecting the information assets of our clients is one of our most important considerations. When selecting development partners, we look at various aspects of supplier businesses, such as their management base, technological capabilities and business track record, as well as their information security management framework.

Before starting work on joint projects, development partners are required to sign a memorandum on

information security. We also provide them with an Information Security Bible, which summarizes the CTC Group's information security policy. We verify information security management on an ongoing basis with regular check sheets and visits to partner sites.

Of our roughly 950 development partners, the best companies are awarded certified partner status, which gives them access to the latest technologies and initiatives to enhance quality. Certified partners also receive access to various development environments and our internal quality standards.

In addition, we provide certified partners with training programs to help them improve the skills of their workforce.

Technical Solution Center (TSC)

TSC is one of only a handful of comprehensive validation centers in Japan with extensive open source resources. In addition to verifying standalone products, TSC works with vendor partners to conduct verification processes in

a multi-vendor environment. TSC works to improve the reliability and security of systems provided by CTC and also plays a key role in ensuring the rapid delivery of optimal systems tailored to client needs.

■ Feature of TSC

- TSC is equipped with extensive resources such as servers, storage systems, network equipment and other hardware, various types of middleware, application software, load testing equipment and measuring devices.
- Using products that clients are planning to install, TSC runs systems close to client specifications so that clients can confirm operational status and performance themselves.

／ Purpose-built environments (LABs)

<p>IoT Digital LAB</p>	<p>The IoT Digital LAB has the capacity to carry out large-scale validation testing for all areas of IoT data use, including linkage with existing systems and advanced data analysis using machine learning.</p> <p>The LAB can monitor device temperature and implement measures to prevent device failures. It is also set up to validate any real-world scenario at clients, such as in-store marketing using smart devices and analysis of data gleaned from tens of thousands of wearable devices, ensuring that validation testing of IoT performance and potential begins without delay.</p>
<p>RoBo-LAB</p>	<p>RoBo-LAB provides total testing support for clients that are considering introducing humanoid or interactive robots. The facility provides a wide range of support for various client scenarios from the robot introduction planning stage through to robot demonstrations and application development.</p>
<p>Flash Storage LAB (Fs-LAB)</p>	<p>This facility helps clients compare and identify the best flash storage system for their needs from a range of vendor options and measures the potential impact of installing each system.</p> <p>Clients that use Fs-LAB to select flash storage systems receive a full package of support, including CTC engineers who design and build the best system for their needs based on the results of assessments and testing, and access to maintenance services for all products in the system.</p>
<p>Oracle Authorized Solution Center (OASC)</p>	<p>OASCs are Oracle product verification facilities run by Oracle business partners.</p> <p>TSC includes the only OASC to be certified by Oracle in the Asia Pacific region. Our OASC works closely with other Oracle-certified centers to provide a full package of support to clients.</p>

1 Provide trusted IT services

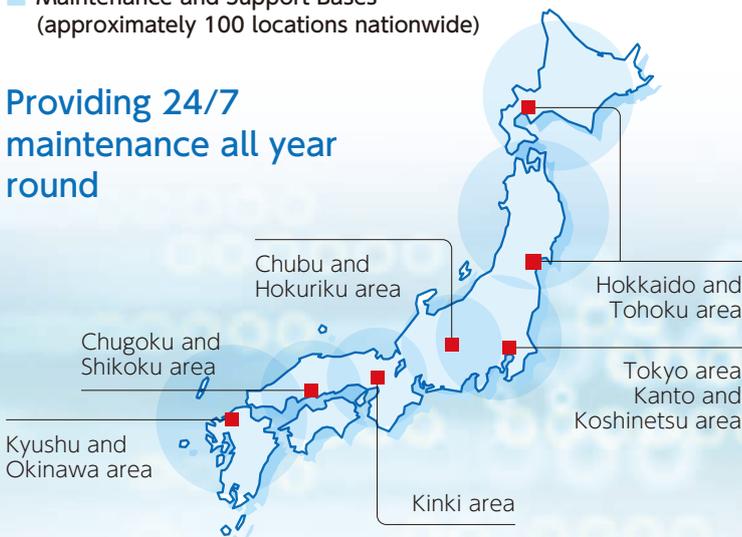
Maintaining and Reinforcing Support Systems

Materiality 1 - 2

CTC has a range of different facilities that help us address client needs—from backbone system development and infrastructure construction to comprehensive system verification services that increase reliability and security, client system operation and monitoring, and the provision of consistent maintenance services nationwide.

Maintenance and Support Bases
(approximately 100 locations nationwide)

Providing 24/7 maintenance all year round



Data Centers / Development Centers

- Yokohama Computer Center East Wing / West Wing (YCC)
- Yokohama Computer Center North Wing (NYC)
- Kobe Computer Center (KCC)
- Otemachi Internet Data Center (OiDC)
- Shibuya Data Center (SDC)
- Mejirozaka Data Center (MDC)
- Osaki Development Center
- Sapporo Development Center

Data Centers

The CTC Group has seven data centers at five locations. Based on total floor area, CTC has one of the largest data center networks in Japan. Certified to ISMS and FISC standards, the facilities are highly secure and reliable and are connected to high-quality networks, ensuring the stable operation of client information systems.

Nearly Three Decades of Operation

CTC data centers are configured to the highest security and reliability standards, with no operational blackouts or failures since the first CTC center was established 29 years ago.

Highly skilled engineers with extensive experience in data center operations are onsite 24/7 all year round,

working to ensure client systems are secure and running reliably.

Designed to Withstand Disasters

Our data centers are located away from areas that could be affected by active seismic faults and tsunamis. They also have robust structural designs to ensure systems continue to operate in the event of a major natural disaster. All sites are linked together via a high-speed network with full redundancy, while data centers in the Tokyo area can be backed up by facilities in Osaka, and vice versa. This setup allows clients to use our data center network for business continuity plans (BCP) and disaster recovery (DR).

✓ Certification status of data centers

	YCC	NYC	KCC	OiDC	SDC	MDC
ISMS	○	○	○	○	○	○
Pmark	○	○	○	○	○	○
EMS	○	○	○	—	—	○
FISC	○*	○	○	—	—	—

*Limits targeted computer rooms.

✓ Data center floor area (total area approx. 83,818m²)

Yokohama	East: 22,132m ² West: 22,075m ² North: 9,300m ²
Kobe	18,898m ²
Otemachi	3,514m ²
Shibuya	1,745m ²
Mejirozaka	6,154m ²

Maintenance support centers

CTC has around 100 maintenance support centers nationwide, each providing a range of services 24/7, 365 days a year, such as equipment maintenance, system operation, monitoring and information security services.

A customer support center manages the provision of all services and a call management system links sites nationwide in real time, allowing support staff to share information smoothly and provide rapid and consistent maintenance support to every corner of Japan. CTC's

maintenance support centers also provide a broad range of systems support covering mission-critical systems, multi-vendor environments and nationwide-scale analysis systems.

We are working to ensure our services continue to conform to the ISO 9001 quality management system in order to deliver advanced services that provide security, stability and reliability to clients.

Remote Operation Center (ROC)

Our ROC provides remote system operation and monitoring services for client IT systems, 24/7 all year round.

In November 2014, CTC and CTC Global Sdn. Bhd. (CTC Global Malaysia), a Group company responsible for IT system development and maintenance, started offering a new service called CTC Proactive Service (CPS) using system operation capabilities in Malaysia built to similar specifications as ROC in Japan. The service draws on the know-how we have accumulated in Japan from the provision of maintenance support and ROC-derived

services.

CPS is an operation and monitoring service designed to improve the efficiency of client system operations through the automation of system operation and 24/7 monitoring to prevent system failures. With helpdesk support provided in English, Malay and Chinese, the service is mainly aimed at Japanese companies based in the ASEAN region who demand the same level of IT governance as in Japan.

CTC Security Operations Center (CTC-SOC)

CTC-SOC plays a vital role in the CTC Group's provision of solutions to combat cyber security threats.

The facility is based in a robust CTC data center with good system availability and is staffed 24/7 all year round by security analysts. The analysts provide security threat assessment and analysis through the CTC Managed

Security Service (CTC-MSS).

CTC has also teamed up with BAE Systems, one of the world's leading providers of security services, to share information on global security threats and supply standardized security services worldwide.

Sapporo Development Center

CTC has established the Sapporo Development Center as a nearshore development base.

The site allows us to develop client systems by accessing the strong system development capabilities of the regional city of Sapporo while also providing high-quality development services in a secure environment.

Nearshore development offers a number of advantages over offshore development (outsourcing of development work to companies overseas), such as better

communication based on common language, culture and customs, and higher levels of security and quality. The Sapporo site allows us to reduce development costs while maintaining high-quality standards, but it also helps us address a number of social issues facing Japan at the moment, such as the shortage of engineers in the Tokyo metropolitan area and efforts to stimulate regional economies.

2 Cultivate personnel who can change society for the better

Dialogue

IT has the power to change the future – but how do we harness the power of IT?



Hiromi Kishida
Executive, Japan Universal Manners Association
Mirairo Inc.



Toru Matsushima
Director & Executive Vice President

IoT, AI, virtualization and robots are just some of the recent innovations in IT. At CTC, we are exploring the best way to harness these new developments in order to “leverage IT’s potential to change future for the Global Good” – the CTC Group Philosophy. We are also trying to identify the kind of skills that people need to support the IT-oriented society of the future.

At CTC, we believe that an affluent society is one that accepts and draws on diversity. To discuss this topic, we have invited Hiromi Kishida, an expert at Japan Universal Manners Association, which promotes better treatment of people with disabilities and the elderly in society, and CTC Executive Vice President Toru Matsushima.



Hiromi Kishida was born in Osaka in 1968. Her eldest son was born with an intellectual disability and her husband passed away at an early age. In 2008, she suffered her own tragedy when she collapsed with an aortic dissection. After a life-saving operation, Hiromi was permanently paralyzed from the waist down. In 2011, after overcoming many challenges, she joined Mirairo Inc., a company set up by a team of entrepreneurs that included her eldest daughter. Hiromi gives more than 180 speeches each year on universal manners and other topics. In 2017, her efforts to promote and raise awareness of universal manners were recognized by Soroptimist International of Kobe-Higashi, which awarded Hiromi the Clover Prize. Her book, *Mama, Shinitai Nara Shindemo ii Yo (If You Want to Leave Me Mum, You Can)* is available from Chichi Publishing.

Similarities between the Mirairo and CTC company names

Matsushima : Itochu Techno-Solutions is also known as CTC. The abbreviation originally came from our company name, but we also used it to create a new slogan, “Challenging Tomorrow’s Changes,” which expresses the main mission in our group philosophy: “leveraging IT’s potential to change future for the Global Good.” There seem to be some similarities between our company name and Mirairo’s.

Kishida : That’s right. In Japanese, Mirairo has two meanings: future colors and future paths. The company name expresses our belief that everybody has the potential to draw their own future with whatever colors they choose and to build whatever path they want – in other words, the potential to achieve anything.

Matsushima : At CTC, the affluent society that we want to help create is one where everybody – able-bodied, disabled, the elderly, and all other groups,

are accepted for their diversity. As part of efforts to promote that vision, we recently held a universal manners workshop for 500 CTC employees in Tokyo.

Kishida : Thank you for the opportunity to run the workshop. Mirairo's corporate philosophy is to realize a barrier-valued society. People tend to view barriers as obstacles that have to be conquered, but we're trying to change that perspective by encouraging people to think about barriers as value derived from people's differences and individual characteristics. Everybody faces some kind of barrier, whether it's physical, psychological or issues in their everyday lives. Our mission at Mirairo is to explain that everybody views the world differently or notices things in different ways, because we are all individuals.

Being considerate to others

Matsushima : You make more than 180 speeches on universal manners every year and those speeches are attracting large numbers of people. Do you think that shows Japan is starting to change?

Kishida : We launched our universal manner test in 2013. The number of people taking the test is rising each year, but there's been particularly strong growth in the last couple of years. I think that's being driven by Tokyo's selection as the host city for the Olympics and Paralympics. Also, Japan enacted a new law in 2016 to prevent discrimination against disabled people. Those developments have raised awareness of issues faced by disabled people in Japan, leading to growing interest about how best to interact with people who have physical or intellectual disabilities.

Matsushima : That suggests barrier-valued thinking is also gaining ground. It's really good to see that people are starting to recognize the value of diversity and individuality. At CTC, we hope to support that trend by using IT to make our vision for society a reality.

Kishida : At my speeches I use a slide to show the breakdown of Japanese society if the population was 100 people. Japan with that population would have a male-female ratio of 49-51, including 27 elderly, 15 children, eight identifying as LGBT, seven with disabilities, and one pregnant woman. The differences between men and women are familiar to us because the male-female ratio is roughly even and we interact with people of the opposite sex on a daily basis. However, we have less contact with the elderly and people with disabilities, making us unsure of how to interact with those groups. The basic premise of universal manners is to acquire the temper-

ament to be considerate to others, including the disabled. I have the advantage of seeing the situation from multiple perspectives - as somebody who was able-bodied in the past, as somebody who now uses a wheelchair, and as a mother of an intellectually disabled boy. I draw on those three perspectives in my speeches to describe our society today. From a logistical perspective, removing kerbing on paths and other obstacles in everyday infrastructure is difficult, but I'm confident we can lower many other barriers just by changing people's mindset.

Lowering psychological and physical barriers

Matsushima : What do you mean by changing people's mindset?

Kishida : When interacting with disabled people, the Japanese tend to either ignore somebody if they don't know what to say to him/her, or respond almost too enthusiastically. I think both types of response are rooted in empathy for the other person. In Japan, if somebody asks us if we're alright, we automatically reply that we're ok.

Matsushima : Yes, you have a point. So how should we interact with disabled people?

Kishida : If I'm faced with a bump in the path of about 5 cm, I can usually negotiate it myself. But if the bump is 10 cm, I need help. Like able-bodied people, disabled people have different abilities and approaches too. I'd be happy to be offered help to negotiate a large bump in the path.

Matsushima : It's about being considerate, isn't it. At CTC, we attach great importance to corporate social responsibility (CSR). In activities that contribute to society - one part of our CSR program - we carry out a wide range of volunteer work, which is really about empathy. But we have to work out how to harness innovations in IT to support society with empathy in other ways. In basic



If Japan's population was 100 people (based on domestic population ratios, Mirairo Inc. research)

2 Cultivate personnel who can change society for the better

terms, that means thinking about society from our own height, and from 110 cm – or how people in wheelchairs see the world. Also, from the perspective of children and the elderly. So it's not just about something as basic as height. CTC needs to take a broader view and consider the feelings of different groups in society as well.

Creating workplaces where individuality is valued

Matsushima : Promoting diversity and changing work styles is one of the CTC Group's priorities in its CSR program (materiality). In addition to respecting the principle of diversity, we are striving to create workplaces where all types of people – regardless of gender, age, nationality and ability – can achieve their full potential. We also want to combine the individuality of our workforce with different ways of working to create workplaces that are geared to taking on new challenges.

Kishida : What kind of steps are you taking?

Matsushima : Japan faces a major paradigm shift as its population ages and declines and the working-age population contracts. We are implementing various measures in response, including efforts to empower women in the workplace. Women currently make up about 15% of CTC's workforce, but we are expanding our package of career support measures for female employees so that they can achieve great things and continue to work for us in the long term. We are also creating more opportunities for female employees to communicate and interact with each other, encouraging a mixing of different ideas that changes the perceptions of male employees. That process is likely to drive greater synergies. To deepen our knowledge of LGBT people, we're providing training to HR personnel who are in charge of recruiting, health support and HR development. In addition to those measures, we want people

with disabilities to play an active role in the workforce.

Kishida : Disabled people like myself would face many challenges if we were asked to do exactly the same work as an able-bodied person. That means there are certain restrictions on workplaces and roles for us. That's why it's important for everybody to look hard at themselves to find things they can do, but more importantly, that approach can lead to new opportunities, just as I've found in my own career. My point is that people with disabilities have a great deal to offer companies. However, companies need to adapt jobs and systems to each person's disability, individuality, characteristics and strengths, rather than the other way around. Using that approach, disabled people can become powerful assets for any business. It's heartening to see that there is a growing number of companies in Japan with the same approach as CTC.

New work styles powered by IT

Matsushima : CTC has a special subsidiary called HINARI Corporation that promotes the employment of people with disabilities. The company's employees have a range of jobs, including working with local farmers. Based at our Hamamatsu site, HINARI employees work with farmers to harvest Chinese cabbage, blueberries, melons and other vegetables and fruit grown hydroponically. Thanks to their help, local farmers are not left shorthanded during peak seasons. We have developed IT systems that visualize work flow, ensuring HINARI employees are only subcontracted for farm work when they are needed, which has proved popular with farmers. Each farm becomes a kind of IT system company, using project management techniques to visualize work flow. That approach has been effective in improving farm management, helping some farms expand their businesses.



Universal manners workshop

Kishida : It's interesting to see how approaches used by IT system companies are also benefiting farmers.

Matsushima : I hope we can also use IT to create workplaces that lower barriers for people with disabilities. Recent advances in AI have been striking, and technologies that help people with visual or hearing impairments are likely to gain ground. We could also see the development of wheelchairs with autonomous capabilities.

Kishida : I believe IT has a critical role to play in improving access for disabled people and expanding their work opportunities. In addition to running education and training programs about universal manners, Mirairo is also involved in developing products that incorporate universal design. For example, we have developed an app called Bmaps, which allows users to share information about barrier-free stores and other facilities, making it easier for people in wheelchairs like myself to go out. The team that developed the app included people with disabilities receiving care at home as its core members.

Matsushima : That's impressive. At CTC we're also promoting different work styles, including a teleworking system. The system is used by various CTC employees, such as those at home raising children or looking after relatives that need nursing care. That's one example of how IT can drive innovation in work styles, including mobile working.

People are the vital ingredient in IT systems – as developers and users

Kishida : Society faces many other issues. What areas does CTC plan to focus on going forward?

Matsushima : IT plays a key role in society, providing support to many people. The development of IT has started shifting toward tools that are more deeply embedded in our everyday lives. One area we are working on is empowerment welfare*. Specifically, we are testing a new service that provides support to visually impaired people when they go out, and we have introduced a urinary care support system at nursing care homes. We are seeing new developments in IT on an almost daily basis as AI applications spread and IoT gains ground. To strengthen CTC's technical ability to deal with those kinds of future developments, we established the Advanced Technology LAB to improve the skills of our engineers, learn about cutting-edge technologies and share expertise. We are also embracing open innovation. Open innovation is a recent trend in the IT market that actively encourages teams from different fields and sectors to cooperate on innovation.

In April 2017, we established the Institute of Open Innovation Research (MIRAI) to tap into that trend by utilizing the latest technologies to create new businesses. Our goal is to harness the power of new ideas in our core business to tackle issues faced by society.

Kishida : People are the end-users of IT, so we need to focus on more than just improving the technological aspects of IT. I want developers who use IT tools to develop systems, as well as the people who use the completed systems, to be empathetic about disabled people and others in general who are different to them. One of my most important jobs is training people to become instructors in universal manners. My goal is to train all types of people to become instructors.

Matsushima : Thank you for taking the time to talk to us today. Our conversation has given me a real sense of your resilience – the ability to bounce back from adversity. That power seems to come from "barrier value," where you've managed to turn barriers from "obstacles" into "value" by emphasizing the positive side of differences and individuality. The concept of barrier value is likely to play a key role in our own efforts to generate new value using IT, as well as spur initiatives designed to bring together new ideas and IT. Thank you for your valuable insights today.

* Empowerment welfare: Support that gives people more control over their lives and environment, helping them maximize their potential.



2 Cultivate personnel who can change society for the better

Creating a Diverse Workforce and Implementing Work Style Reforms

CTC believes workplaces that motivate employees to take on new challenges and achieve their full potential play an important role in the development of new solutions and high-quality services. To create those kinds of workplaces, we are improving employee support systems and stepping up efforts to promote diverse work styles.

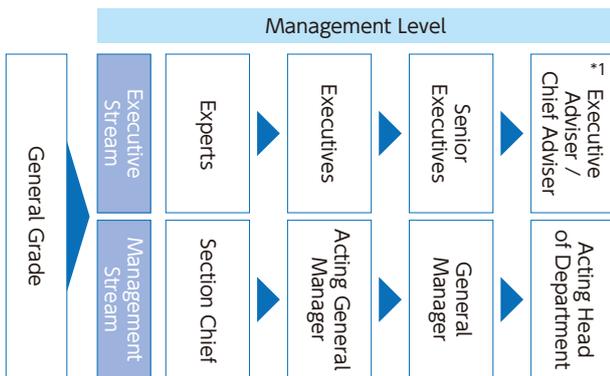
Developing and Cultivating Human Resources

Materiality 2 - 1 2

Multiple-track personnel system

Starting in fiscal 2013, engineers have been divided into two paths in a high-grade stream, one for specialist engineers and the other for managers, creating a dual track approach aimed at enhancing the technical skills of our engineers.

We made further changes to the system in April 2015 to create a wide range of career paths for all our employees. Specifically, we divided sales personnel and other employees into two high-grade streams comprising managers and specialists, resulting in a systemized grade-based personnel system tailored to job roles, including engineers.



*1 Engineers are appointed as executive advisers, marketing and other staff are appointed as chief advisers

Developing global human resources

We are cultivating human resources who can flourish in the global marketplace, as part of efforts to reinforce our business base in the ASEAN region. In addition to improving language abilities, CTC provides training to nurture overseas business management capabilities and enhance practical communication skills targeting select employees with experience and a proven track record in the domestic business. We are also working to hire more international staff and Japanese who have studied abroad.

Diverse human resources

CTC values diversity and is working to create an environment where all types of people can fulfill their potential, regardless of gender, age, nationality and physical ability. We are also deepening understanding of LGBT people and combining the distinct characteristics of our employees with diverse work styles to create workplaces that embrace new challenges.

Empowering women in the workplace

We have introduced a mentor system for female employees to improve career development and enhance communication and relationship skills. Under the system, senior female managers and other employees provide support and advice to junior colleagues. Additionally, we run networking events with companies in other industries to give female employees access to numerous role models who can show them what is achievable, and we build networks to open the door to new experiences and thinking. Our goal is to encourage more women to become leaders and to create a supportive environment throughout their careers.

Employment for the elderly

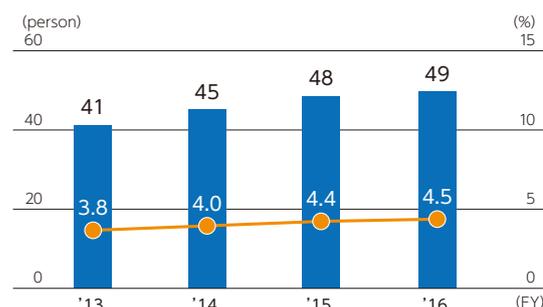
In accordance with April 2013 revisions to the Act on Stabilization of Employment of Elderly Persons, the CTC Group fosters an environment enabling all willing and healthy seniors to be rehired after statutory retirement.

We also hold seminars for employees aged 55 and older to encourage them to think about future life plans.

Employment for the disabled

CTC established HINARI Corporation in April 2010 as a special subsidiary to promote employment of people with disabilities. In addition to providing massage and office cleaning services for CTC Group companies, HINARI runs businesses such as agriculture-related contract work in conjunction with farmers and the contracted dismantling of computer equipment. This is part of our efforts to create an environment where people with disabilities can maximize their potential.

Women in leading positions (people) and ratio (%) (non-consolidated)



* Leading position means certified professionals (specialist for FY2015) and managers.

Workstyle Reforms and Health Management

Morning-focused working system

Launched in July 2014, this system is designed to limit irregular working hours at night or on days off. Where necessary, employees are encouraged to stop working and come into the office early the next day. Our aim is to promote healthier lifestyles to improve employee concentration and motivation, which is likely to lead to further improvements in service quality and client satisfaction.



Flexible Work Styles

Building on the morning-focused working system, we are implementing other work style initiatives to motivate every employee and encourage them to work more efficiently and effectively. Specifically, we have introduced a time-based paid leave system that allows employees to build up annual leave in hourly increments up to a maximum of three working days (total of 24 hours) and a Slide Work system that lets employees select any time between 7am and 10am to start work in the morning, giving them a wider choice of work hours.

In addition, we are making work practices more flexible with our Mobile Work and Home Work systems, which allow employees to do their jobs at outside business locations or at home while retaining fixed office locations for most work.

To support these reforms, we have introduced new cards that make it clear when employees have left the office, helping to create working environments that foster independence and cooperation, and encourage essential workplace communication, making the new work practices easier to use.

Support Framework

In 2013, we started running seminars for employees who have returned from childcare leave. The seminars are designed to help them tackle issues when reintegrating into the workplace and to encourage communication with other employees who have had similar experiences. We also run seminars for managers in charge of team members who have returned from childcare leave, as part of efforts to support workplace reintegration. CTC has systems in place to support employees who have to balance work commitments with caring for family members, and we are using seminars and other approaches to foster an internal culture and understanding about the need to balance work and nursing care commitments.

CTC is also cultivating a deeper understanding about the CTC Group, the type of work it does, and IT in general through family office tours during the summer holidays every year and other opportunities for family members to see workplaces and employees in action.



Providing Health Management Solutions

As part of its package of work style reforms, CTC is promoting health management - managing the health of employees from a business standpoint. Drawing on our own initiatives in-house, we are working closely with the human resources division to develop and provide various solutions that combine health management and work style reforms. We also provide solutions that help companies manage documentation in the new era of work style reform, aiming to maximize and steadily transfer our own experience to our core business. In another health management initiative, we provided a subsidy to employees to part-fund their purchase of wearable Fitbit activity trackers when we started selling them in-house.

Recognition from External Parties

Selected for the 2017 White 500



CTC has been selected as a member of the White 500 in the large enterprise category, recognizing our efforts in health management by managing the health of employees from a business standpoint. The White 500 is run by Japan's Ministry of Economy, Trade and Industry (METI) and Nippon Kenko Kaigi to recognize excellence in health management.

Granted "Kurumin" certification for nurturing future generations



CTC has received certification under the Law for Measures to Support the Development of the Next Generation, which was enacted in April 2005. The certification recognizes our efforts and track record in nurturing future generations through our action plans (general business owner action plans).

Certified as Tokyo Sports Promotion Company for fiscal 2016



CTC has been selected as a Tokyo Sports Promotion Company for fiscal 2016, recognizing our efforts to promote sporting activities by employees and our social contribution to the field of sports.

Specifically, we received recognition for our holiday schemes that allow employees to actively participate in sports events and volunteer activities and for employees' volunteer activities.

3 Harness IT to build a sustainable society

Initiatives through Core Business

Under the third theme of the Group’s materiality “Harness IT to build a sustainable society,” three items including “Address issues related to an aging society,” “Reduce environmental impact” and “Contribute to regional economies” are listed. In this section, we will introduce the initiatives that we have been promoting in our core business.

Address Issues related to an Aging Society

Materiality 3-1

Urinary care support system for nursing care facilities

We have provided a urinary care support system that visualizes the volume of urine in the bladder and predicts and notifies the timing of urination to nursing care facilities.

With the onset of an aging society, it has become an imminent challenge for hospitals and nursing care facilities to reduce costs related to the disposal of diapers and excretions and enhance the efficiency of disposal procedures. When DFree, a urination detection device developed by Triple W Japan Co., Ltd., is attached to a resident’s lower body with medical tape, or similarly attached, an ultrasonic sensor detects and analyzes movement of the bladder, enabling staff to keep track of the timing of urination via a personal computer or tablet device.

This means that they can take residents to the toilet at the right time, which can help to reduce the number of

toilet visits per person. In addition, the system reduces anxiety and stress in residents, and eases the workload on care staff.

As urination may be affected by injuries due to accidents, childbirth, etc., DFree will also be able to help to reduce burdens on families by detecting the timing of urination in advance.



Care staff’s tablet screen display

Countermeasures against a decline in workforce through the utilization of robots

Mizuho Bank, Ltd. and CTC implemented demonstration of communication robots that offer consultation services to customers about asset management in January 2017.

RoBo-LAB, CTC’s verification facility that carries out research on the use of robots by companies in light of a decline in workforce, provides an integrated robot and IoT platform developed by CTC that is capable of creating, executing and managing scenarios through the collaboration of various robots, web services and sensors.

* Sota is the registered trademark of Vstone Co., Ltd.
 * Pepper and NAO are the registered trademarks or trademarks of SoftBank Robotics Corp. in each relevant country.
 * Services within RoBo-LAB utilize Pepper and NAO of SoftBank Robotics Corp., which CTC independently carries out.



Robots offering consultation services to customers (from left to right, Pepper, Sota and NAO)

Contribute to Regional Economies

Materiality 3-3

Health management using IoT solutions

CTC has developed IoT solutions for health and labor management as well as productivity analysis for agricultural workers.

We carried out a verification experiment in a plantation in Hamamatsu where data was acquired from sensors attached to agricultural workers for health and

labor management of individual workers.

Special attention must be paid to agricultural operations during summer, especially in greenhouses, for the sake of preventing heat stroke, among others. These IoT solutions are suitable not only for agricultural operations but also for other types of work that requires health and labor management.

■ Security countermeasures

CTC proposes and installs security cloud services for local governments around Japan. CTC-SOC has been well received reflecting the increased demand for the reinforcement of information security measures.



CTC Security Operation Center (CTC-SOC)

■ Cooperation with TORIoT, a data utilization and human resources development project, in Tottori Prefecture

TORIoT is a project led by Tottori Prefecture and LASSIC Co., Ltd. to promote the development of human resources who can make full use of IT such as IoT, big data, etc., for the purpose of industrial development and job creation in Tottori Prefecture. CTC provided cooperation for the planning and facilitation of “Medical x IoT Ideathon” under this project. With participants who are interested in solving issues by leveraging new technologies, specific ideas were generated with elements that can be used for the adoption of IT tools for the institutional care of dementia patients. We are planning to provide further assistance in incorporating such ideas into the adoption of IT tools in the future.



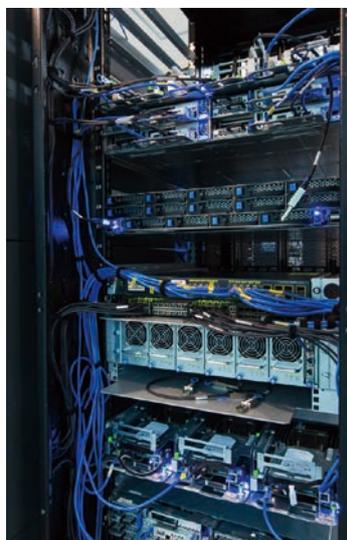
Reduce Environmental Impact

Materiality 3-2

■ CTC jointly developed OCP-specified racks and power sources optimized for Japanese data centers that realize both energy efficiency and low cost

The Open Compute Project (OCP) is a project started by Facebook, Inc. that promotes the standardization and open sourcing of best hardware for large-scale data centers.

Since the design of OCP-specified hardware is optimized for data centers, it is possible to provide energy efficient and low-cost systems. It can reduce power consumption by approximately 10% compared with conventional hardware, making it suitable for environmental proposals. Certified as the only OCP solution provider in Japan, CTC has been promoting the sale and installation of OCP-specified products. In fiscal 2016, CTC developed racks, power sources, etc., for OCP introduction jointly with Japanese manufacturers.



OCP-specified server

■ Consulting services to promote the use of renewable energy

Combining predictive technologies based on weather simulations and statistics with system integration (SI), CTC provides services that range from predicting the amount of renewable energy that will be generated through to maintenance and operations. We use unique techniques based on weather data accumulated over the past few decades to assist with site design as part of the installation of wind turbines and solar panels, and to predict power generation over the next 20 years, in order to evaluate the viability of wind and solar power from a business standpoint. In addition, we provide renewable energy forecast data, which is susceptible to changes in the climate, and failure prediction data for devices essential to the efficient operation of power plants, via our cloud service E-PLSM to promote the use of renewable energy, and provide installation support for up to 130 projects annually.



Surveying shielding objects and earthquake risks at a solar power plant

3 Harness IT to build a sustainable society

Environmental Initiatives

Materiality 3-2

The CTC Group is doing its part to pass on a sustainable global environment to future generations. We are cutting energy consumption, using resources effectively and taking other steps to prevent global warming. Also, recognizing the importance of maintaining biodiversity, we are working to improve the natural environment.

→ For more details, please visit the CSR section of the CTC website

<http://www.ctc-g.co.jp/en/corporate/csr/environment/index.html>



Policies and System

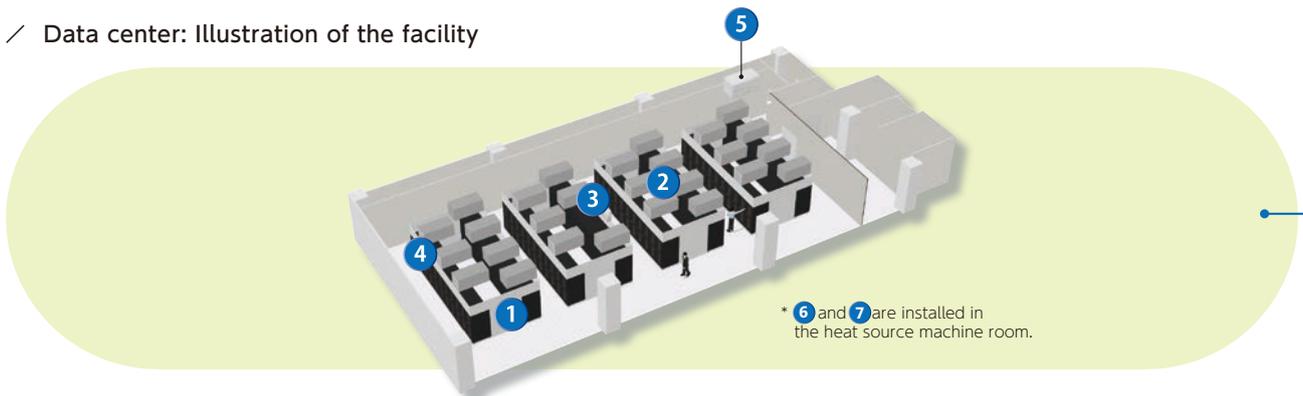
The CTC Group has established an environmental management system based on environmental policies that conform with the CTC Group Philosophy. Environmental managers and eco-leaders in each organization promote environmental improvement activities under the leadership of the CSR and Compliance Committee chairman and environmental control manager.

Regardless of certification acquisition status, the

CTC Group promotes environmental improvement activities across all its operations and currently 23 business sites across Japan have ISO 14001 certification.

In line with the uptake and increased use of IT, expectations have risen that energy-efficient data centers will contribute to energy saving. CTC has taken a wide range of initiatives for realizing highly efficient operations of data centers.

Data center: Illustration of the facility



* 6 and 7 are installed in the heat source machine room.

Environmental Initiatives through Data Centers

Equipment used within the facilities

Yokohama Computer Center

Yokohama Computer Center (North Wing)

Kobe Computer Center

Mejirozaka Data Center

Colored-coded squares show which centers have the systems and equipment

1 Adoption of exhaust heat shielding curtains

By thoroughly segregating cool air supplied to a server rack from exhaust heat, the mixing of airflows from the cold aisle and the hot aisle is prevented, ensuring efficient air conditioning and stable operation of the IT equipment.



Yokohama Computer Center (North Wing)

3 Introduction of LED lighting system

With the aim of realizing energy saving and long life of light bulbs, we have adopted LED lighting equipment.



Yokohama Computer Center (North Wing)

5 Outside-air cooling system

We have adopted a system that automatically controls air-conditioning operations by taking in outside air when the temperature of outside air and humidity match the required conditions.



Yokohama Computer Center (North Wing)

7 Heat pump water heater

In order to reduce the usage of boilers that use gas, kerosene, etc., as fuel, we use efficient electric water heaters, generally referred to as Eco-Cute.



Yokohama Computer Center

2 Adoption of a ceiling-suspension local air conditioning method

By installing cooling units in several locations unlike a conventional floor blowout air conditioning method, it is possible to finely control the operations by rack and area.



Yokohama Computer Center (North Wing)

4 Introduction of motion sensors

In addition to the introduction of the LED lighting system for the lighting of the server room and corridors of common areas, we have installed motion sensors that automatically control the switching on and off of lights by detecting human motion.



Yokohama Computer Center (North Wing)

6 Ice thermal storage equipment

We have realized efficient energy usage by collecting energy in thermal storage by making ice during night time and discharging such energy during the day time for power usage (peak cut).



Yokohama Computer Center

Equipment used outside the facilities

8 Greening within the premises

In addition to planting trees, shrubs, grass, etc., to achieve higher greenery of the premises, we have also taken measures to promote green IT including rooftop greening and wall greening.



Yokohama Computer Center (Rooftop, North Wing)

9 Solar power generation system

Electric power generated through solar panels installed on the roof is used within the data center.



Yokohama Computer Center (Rooftop, North Wing)

10 Recycling of food waste from cafeteria

Food waste from the cafeteria is recycled.

Other

Sponsorship of Yokohama City wind power generation project

CTC provided support for the simulation of wind conditions, location survey and basic design for the installation of Hama Wing (Yokohama City's wind power generation plant). Supporting the aim of Yokohama City's wind power generation project, CTC has been a sponsor since the inception of the project as a Y (Yokohama) Green Partner. Generated power has been used for the reduction of CO₂ emissions at the data centers.



3 Harness IT to build a sustainable society

Contribution to Society

As a member of its local community, the CTC Group aims to create an affluent society by conducting proactive social contribution activities across a wide range of fields and through the effective utilization of its human resources, information technology and other resources. We are also investing our energy and engaging in activities to support the recovery of disaster-stricken areas.

Local Community and Society Initiatives

■ Support for disaster-affected areas



Trips to the region affected by the Great East Japan Earthquake

The CTC Group has organized trips for its employees to the Tohoku region with the aim of aiding in a faster recovery for the disaster-affected areas since fiscal 2014. In fiscal 2016, we organized three trips to help the recovery effort, with a total of 97 employees taking part.

■ Promotion of diversity



HINARI Corporation: support for sports

CTC supports its employees who participate in the Paralympics and other international sports competitions. One of our employees participated in the Rio Paralympics held in September 2016.

■ Environmental protection



Participation in MOTTAINAI x TAMAZO Forestation Project

As a supporter of the MOTTAINAI campaign, CTC participated in activities to conserve the rural landscape of Tama Zoological Park, which was participated in by 22 people including CTC employees and their families.

■ Social welfare



Participation in IT Charity Ekiden Road Relay Race

A total of 65 employees took part in the NIPPON IT Charity Ekiden Road Relay Race that supports unemployed persons who suffer from depression and social isolation.

■ Welfare for children



Donation of rice and tea

CTC donates rice and tea for the meals provided in the "Third Place" facilities set up by The Nippon Foundation to prevent the isolation of children and families and fostering the "power for living" of children through the support of local communities.

■ Support for the international community



Participation in Yokohama charity walk

A total of 42 CTC employees took part in the WFP Walk the World 2017 charity event organized by the United Nations World Food Programme (WFP), which tackles child hunger in developing countries.

Materiality 2-3

■ Children's Technology Challenge: Nurturing Creativity and the Power of Expression



CTC launched programming workshops for children in fiscal 2015. Called Children's Technology Challenge, the workshops give children an opportunity to create their own programs using tablet PCs, helping them to learn how IT is used widely in everyday situations.

In fiscal 2016, eight workshops were held. A programming workshop for parents and children held in Togane City, Chiba Prefecture was attended by 21 pairs of parents and children.

We will continue to hold Children's Technology Challenge in the future as a means of harnessing IT to contribute to nurturing the next generation.

Comment from Yasuhiro Ohki, Section Manager, Youth Unit, Life-time Education Section, Education Department of the Board of Education of Togane City, Chiba Prefecture

We had been planning to organize a programming class targeting elementary school students and their parents in light of the advancement of ICT in society and the inclusion of programming education as a required subject at primary schools in 2020. We were extremely grateful that CTC offered to help us. Through the experience of using tablet devices and learning programming methods by creating some simple programs, the children and parents who participated in the workshop enhanced their abilities to think, create and communicate. I believe that the workshop made a tremendous contribution to sound youth development and the enhancement of education at home.



Yasuhiro Ohki, Section Manager

Developing Systems to Engage Diverse Human Resources

■ Universal agriculture

With the acceleration of a decline in the population and the aging of society in recent years, a decrease in the agricultural workforce and an increase in abandoned farmlands due to rural depopulation and the aging of farmers have become an issue. On the other hand, the employment rate of people with disabilities is lower than the general employment rate, indicating a situation where people with disabilities cannot find work even if they would like to. As an initiative to solve both these agricultural and social welfare issues, the promotion of agriculture and social welfare collaboration (universal agriculture) has been spreading nationwide.

CTC established HINARI Corporation in 2010 as a special subsidiary to promote employment of people with disabilities. HINARI Corporation's Hamamatsu Business Site is focused on the employment of human resources in the agricultural field in particular. Instead of engaging in farming itself, HINARI Corporation's employees are entrusted with agriculture-related light contract work from multiple farmers. They are also tasked with the packaging of agricultural products and processed products as well as putting stickers on the products. The farmers' products are used in the tea-making machines within the CTC Group and sold as novelties.

In establishing Hamamatsu Business Site, we took into account the key facts that it is a home of greenhouse cultivation where harvesting is possible all year around, there is stable work demand throughout the year for a range of agricultural products, and thus the employment of people with disabilities can be stabilized.

HINARI Corporation has a supervisor called the Support Manager. When mandated with new agricultural

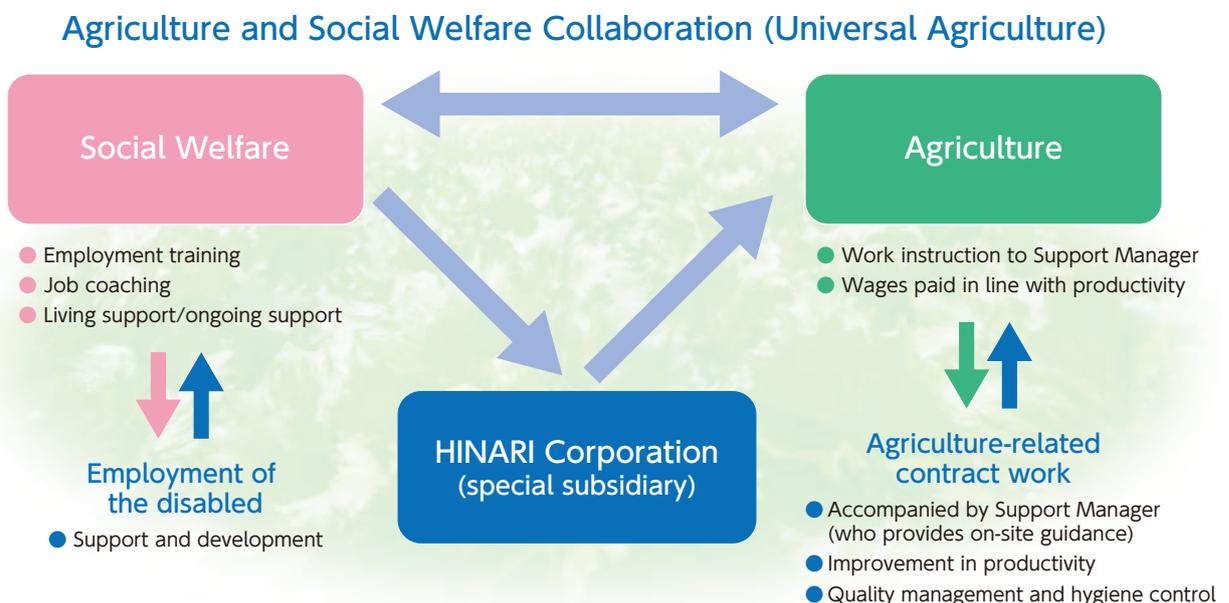


Our staff work in teams of three to five people

contract work, the Support Manager learns the details of the operational procedures from the farmer and prepares an operational manual that contains visual images. Through the visualization of the work procedures, both parties feel assured that contract work will be done properly. In addition, technical advice and the necessary tools to assist in the work are provided. As a result of these initiatives, HINARI Corporation was awarded as a superior company for the employment of the disabled by Hamamatsu City in December 2012. Some of the farmers that have entrusted work to us ended up expanding their business operations, proving that our efforts have contributed to improving the business of local farmers.

Moreover, HINARI Corporation employs a few top athletes in sports for the disabled who appear in international competitions including the Paralympics.

The CTC Group will continue to accelerate the development of rich and healthy workplaces with the aim of cultivating and expanding work opportunities to further promote the employment of people with disabilities.



Corporate Governance

Basic stance on corporate governance

Guided by the slogan “Challenging Tomorrow’s Changes” and the CTC Group Philosophy, which sets out our mission of leveraging IT’s potential to change future for the Global

Good, we are working to reinforce corporate governance in order to enhance management transparency and fairness as part of our efforts to maximize the Group’s corporate value.

Corporate governance structure

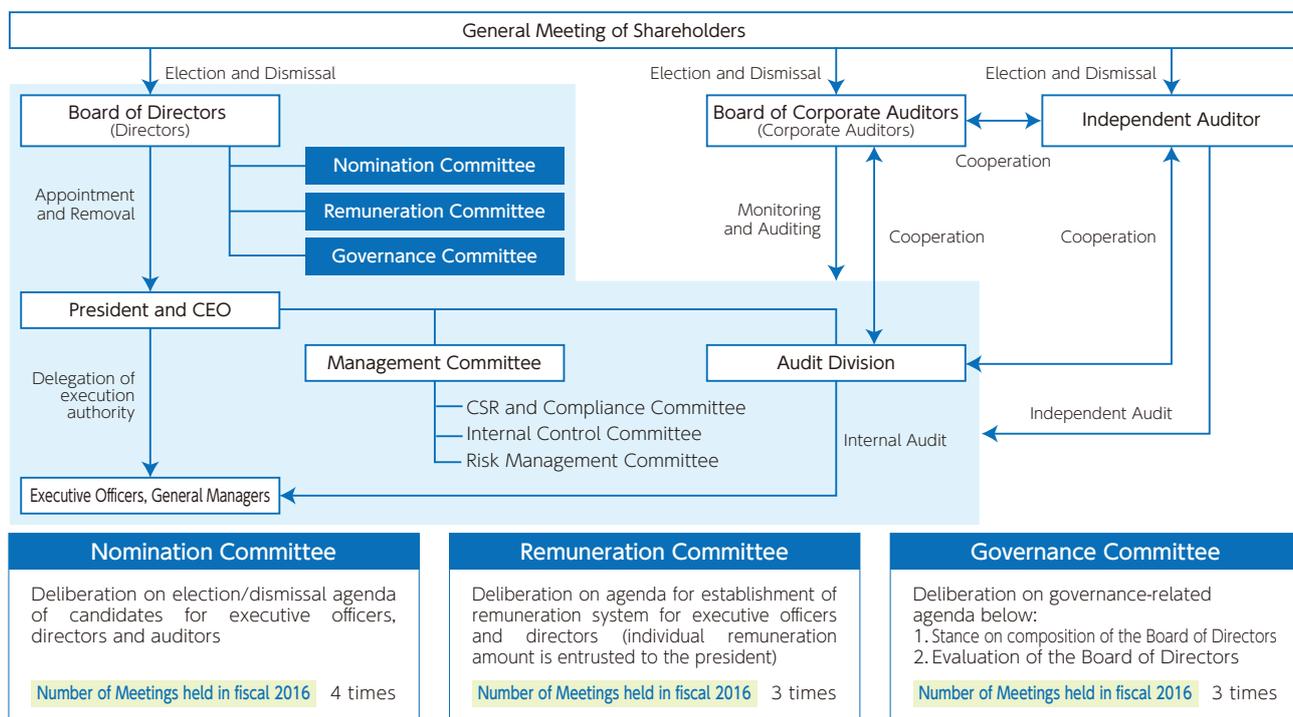
CTC is a company with auditors. Our Board of Directors, which consists of nine members (including two outside directors), makes decisions on important management issues and supervises the execution of duties by directors in accordance with legal requirements, the Articles of Incorporation, resolutions passed by the General Meeting of Shareholders, and regulations of the Board of Directors.

In order to strengthen oversight functions of the Board of Directors and enhance the transparency of the decision-making process, CTC established the Nomination Committee, Remuneration Committee and Governance Committee as discretionary advisory bodies to the Board of Directors.

CTC has also adopted an executive officer system in order to strengthen the decision-making and oversight functions of the Board of Directors and improve the efficiency of business execution. Executive officers are appointed by a resolution of the Board of Directors and are authorized to perform duties within a certain area by the Board of Directors and the representative director.

The Board of Corporate Auditors consists of three members (including two outside auditors). The corporate auditors perform their duties in accordance with the regulations and audit standards, cooperate with the Audit Division and Independent Auditor to ensure the directors execute their duties in an appropriate manner.

✓ Fiscal 2017 Corporate governance system



Evaluation of the Board of Directors

Since fiscal 2015, CTC has been conducting a survey of directors and corporate auditors to analyze and evaluate the effectiveness of the Board of Directors.

In order to elicit candid opinions, the survey is conducted in the format of anonymous self-assessments

by all respondents and the results of the assessments are submitted to the Governance Committee for deliberation.

Based on such analysis and evaluation, we intend to use this process to encourage the board to take a longer-term and more strategic perspective in discussions.

Outside director and auditor nominations

Outside directors are nominated for their objectivity and specialized perspective on corporate management in an attempt to create the Board of Directors with the appropriate decision-making and management supervisory functions from a variety of perspectives. Outside auditors are nominated based on their wealth of knowledge and experience in their area of specialization and ability to

conduct audits with an objective perspective to ensure management health and transparency.

Of the four outside directors and auditors, three are independent and not affiliated with CTC, our parent company or any of our major suppliers, and have no inherent conflicts of interest with regular shareholders.

Follow-up system for outside directors

In order to ensure that directors and corporate auditors can fully perform their management supervision and auditing functions, CTC has set up an information sharing meeting for non-executive directors and a liaison meeting between corporate auditors and non-executive directors.

By sharing information in advance and exchanging opinions, we aim to enhance the discussions at the Board of Directors meetings while ensuring collaboration between corporate auditors and non-executive directors.

✓ CTC's new initiatives related to governance (FY2015 - FY2017)

- 1 Establishment of Nomination Committee, Remuneration Committee and Governance Committee as advisory committees for the Board of Directors
- 2 Assessment of the Board of Directors
- 3 Establishment of liaison meeting between corporate auditors and non-executive directors
- 4 Establishment of information sharing meeting for non-executive directors
- 5 Provision of opportunities for outside directors to take part in training (external seminars)
- 6 Introduction of performance-linked stock-based remuneration plan

Director remuneration and calculation method

Directors' remuneration is paid according to the Director Remuneration System, which was established in consideration of the opinions from the Remuneration Committee mainly comprising of outside auditors and directors. Remuneration comprises standard fixed payments, performance-linked bonuses and performance-linked stock-based remuneration. Standard fixed payments are determined for each director based on consideration of full and part-time work, responsibilities and individual evaluations.

The total amount of performance-linked bonuses and performance-linked stock-based remuneration of each director (hereinafter, "total amount of performance-linked remuneration") is calculated based on the net income attributable to CTC's shareholders announced in the management plan, and performance-linked bonuses and performance-linked stock-based remuneration are determined by multiplying the total amount of performance-linked remuneration by the

performance-linked bonus ratio and the performance-linked stock-based remuneration ratio, respectively. As for performance-linked stock-based remuneration, points are granted during the years of service and stock is issued in accordance with the granted points at the time of retirement.

The amount of auditor remuneration is determined for each auditor based on a discussion among auditors.

Auditors and part-time directors, including outside directors are not paid performance-based bonuses.

✓ Director Remuneration (March 31, 2017)

Directors: 7 people (excluding outside directors)	Basic remuneration	¥199 million
	Bonus	¥117 million
Auditors: 3 people (excluding outside auditors)	Basic remuneration:	¥31 million
Outside Auditors and Directors: 4 people	Basic remuneration:	¥54 million

Internal control system

CTC has created an internal control system, comprising systems to ensure directors perform their duties in accordance with legal requirements and the Articles of Incorporation and systems to ensure business activities are conducted in an appropriate manner across the Group. The internal control system is continually improved through an ongoing review process designed to create a more adequate and efficient system.

■ Systems to Ensure Appropriate Financial Reporting

CTC is stepping up efforts to ensure appropriate financial reporting in accordance with the Group's accounting regulations, sales administration regulations, procurement administration regulations and other internal company rules. CTC also has a chief financial officer who is tasked with ensuring financial reporting complies with accounting standards and other relevant laws and regulations. In addition, the Internal Control Committee is responsible for establishing, regularly evaluating and improving internal systems to ensure appropriate financial reporting.

Corporate Governance

Ensure rigorous information security

Materiality 1 - 1

For the CTC Group, appropriate handling and safe management of information are important social responsibilities.

The CTC Group developed “an information security & personal information protection management system” integrating information security management and personal information protection systems in compliance with ISO27001 (JIS Q 27001) and PrivacyMark (JIS Q 15001), which is responsible for:

- Creating various regulations, standards and procedures
- Conducting education and awareness activities related to information security and personal information protection
- Acquiring a written oath from all directors and employees each year
- Conducting internal audits
- Conducting annual surveys of outsourcing contractors

At CTC we handle all the information entrusted to us by our clients as confidential information; carrying out hand-over checks and exercising strict access management.

Moving forward, we will continue to implement further security measures against new threats, with the safe and secure handling of information entrusted to us by our clients as our highest priority.

Information Security Basic Policy

By establishing the Information Security Basic Policy, the CTC Group has taken measures to handle information and practice security management properly.

All CTC officers and employees comply with this policy to ensure the appropriate handling, management, protection and maintenance of information.

1. Management and protection of information assets
2. Cyber security measures
3. Information Security and Personal Information Protection Management System
4. Information security training
5. Preventing and acting upon incidents impacting information security
6. Observation of laws and regulations

Obtained accreditation under Information Security Management System (ISMS) assessment scheme



Compliance

Materiality 1 - 3

The CTC Group regards compliance as one of its most important management issues. The CTC Group requires all its employees to observe all applicable laws, regulations and internal rules related to its corporate activities and to conduct themselves with high ethical standards and a sense of responsibility. In this way, we aim to increase corporate value throughout the entire Group as a sound company to ensure we are trusted and held in high esteem by society.

To realize these objectives, we have formulated a code of conduct and various regulations that stipulate items related to compliance such as the Group's compliance structure. The regulations require the appointment

of a Chief Compliance Officer, the establishment of a CSR & Compliance Committee, and the appointment of compliance general managers for each business group and subsidiary, and compliance managers for each department and team. We also conduct compliance training and provide an internal helpline for whistleblowers. In addition, we improve awareness about compliance among our employees by providing a booklet containing legal guidelines and examples of appropriate behavior.

Third-party experts from outside the CTC Group regularly review these activities, helping us to make improvements. We also conduct Compliance Awareness Surveys of all our employees to identify and resolve any issues.

Risk management

Recognizing risk management as an important management issue, the CTC Group manages risks in an integrated manner using a unified risk management system implemented by the Risk Management Committee.

CTC establishes various internal committees and supervisory departments, including the Risk Management Committee, to mitigate a wide range of risks pertaining to CSR and compliance, information security, disasters, foreign currency and other markets, credit, investments and technologies. The CTC Group

also manages risks through the establishment of the necessary risk management systems and methods, including various management regulations, business continuity planning, investment criteria, the establishment of credit limits and reporting and monitoring systems while conducting regular reviews with regard to the effectiveness of these management systems.

→ See **P67-68** for risks that may impact CTC's operating results, etc., and their countermeasures

〈Dialogue with shareholders and investors〉

■ Institutional investors and analysts

In addition to IR presentations for institutional investors and analysts held at the time of announcement of our operating results, we hold small meetings and individual meetings to provide opportunities for constructive dialogue with our top management. In fiscal 2016, we also offered tours of our facilities (data centers).

Number of meetings with institutional investors and analysts : 226

(Number of top management meetings : 51)

Major events

Number of IR presentations	: 4
Number of small meetings	: 1
Number of IR Days for domestic institutional investors	: 1
Number of facility tours	: 1
Number of overseas IR events	: 4
Number of conferences held by securities firms	: 2

■ Individual investors

CTC has been conducting IR activities targeting individual investors since fiscal 2015. In fiscal 2016, we increased both the number of presentations and participants in an effort to further disseminate CTC's attractive points to individual investors.

Number of presentations for individual investors and participants

FY2015: 17 / approx. 2,000 → FY2016: 21 / approx. 3,000



■ Major indices for which CTC has been included in the portfolio



■ General Meeting of Shareholders

Date of the General Meeting of Shareholders: Wednesday, June 21

Number of shareholders attended: 411

(Ratio of voting rights exercised: 87.9%)

➔ See the CTC's website for detailed IR information.

<http://ctcir.ctc-g.co.jp/rose/en/index.htm>

Business Risks and Mitigation Measures

The following is a list of risks that could affect the CTC Group's operating results, share price and financial position. Forward-looking statements are based on judgments made by the Company as of the end of the previous consolidated fiscal year.

Risk	Summary of risk that could negatively impact earnings
1 Risks Concerning Changes in the Business Environment	The CTC Group is affected by changes in its business environment such as domestic and overseas economic conditions, information system investment trends among clients and competition within the industry, as well as changes in various laws and regulations, tax systems and accounting standards. In the information service industry, price competition may intensify due to new entrants and competition with other companies, in addition to diversifying client needs and significant technological progress. Furthermore, delays in addressing sudden changes in client needs and technological innovations may affect the Group's earnings and financial position.
2 Information Security Risk	As part of its business, the Group handles personal information and classified information held by clients. In the event of a leak, alteration, or loss of this information caused by a computer virus, unauthorized access or human error, the Group's earnings and business development may be affected due to claims for damages or loss of confidence.
3 Compliance Risk	The business activities of the CTC Group are subject to laws and regulations of Japan and other countries where they are conducted. A serious breach of compliance or a violation of laws or regulations in conducting business may lead to a decline in the Group's social credibility or affect the Group's earnings.
4 Human Resources Risk	Securing and developing human resources with high technological skills and expertise is necessary for business promotion and sustainable growth of the CTC Group. If personnel cannot be secured as planned, or a deterioration of the labor environment leads to personnel departures or a decline in productivity, there may be an impact on the Group's earnings and business development.
5 Project Management Risk	The CTC Group conducts customized system development for clients and manages development projects in terms of quality, time, cost and risk control. Amid heightened complexity and sophistication as well as quicker delivery of products, the Group's earnings may be affected if additional costs that exceed plans are required due to failure to secure the intended quality or to complete the project within the development time frame.
6 System Failure Risk	The CTC Group operates service business infrastructure such as data centers as well as systems for individual clients. In the operation service business, clients' mission critical operations may be suspended due to system failures, earthquakes, disasters such as large-scale blackouts and operational errors. A serious system failure may affect the Group's earnings and financial position due to a loss of confidence or claims for damages from clients.
7 Investment Risk	In order to expand business and enhance competitiveness, the CTC Group is engaged in new business start-ups as well as investments in or acquisitions of companies in Japan and elsewhere. In addition to initial investments, operating data centers and providing cloud services require a large amount of funds for continuous capital expenditure to secure stable operation, such as by responding to the aging of facilities and enhancing equipment to address increases in demand. Failure to achieve the expected results of such strategic investments and a drop in recoverability due to changes in the market environment and deterioration of revenues may affect the Group's earnings and financial position.
8 Exchange Rate Risk	In order to meet client needs, the CTC Group procures competitive products and services from overseas markets such as the United States. Sudden fluctuations in exchange rates or failure to adjust prices following a medium-term depreciation of the yen may affect the Group's earnings and financial position.
9 Risk of Large-scale Disasters	Severe damage to the Group's facilities and infrastructure or injuries due to large-scale natural disasters such as earthquakes, terrorist attacks and infectious diseases such as the H1N1 influenza may affect the Group's earnings and financial position.

→ See **P65** for the CTC Group's internal management systems.

Risk mitigation measures

▶▶▶	<p>The Group is searching for advanced products and services as well as optimizing its organizational structure in order to provide high-value-added solutions.</p>	→ See P45-48 for more details
▶▶▶	<p>The CTC Group attaches the highest priority to information management. In addition to establishing a specialized organization within the company to obtain various certifications and provide information security training, the Group carries out security measures in its business infrastructure in an effort to reinforce its information management systems.</p>	→ See P65 for more details
▶▶▶	<p>The Group has established a Code of Conduct as well as compliance programs, in addition to providing training and awareness-raising programs for executives and employees in order to enforce proper observance of laws and regulations.</p>	→ See P65 for more details
▶▶▶	<p>The CTC Group works to hire and develop high-quality personnel by respecting individuality and diversity, and by fostering a liberal corporate culture where employees can exercise their creativity. It also focuses on supporting work-life balance and developing an appropriate working environment by introducing various systems for work style reforms, such as a morning-focused working system, Slide Work, which gives employees more options to choose their work hours, and a work-at-home system, as well as through proper working hour management and promoting use of paid leave.</p>	→ See P55-56 for more details
▶▶▶	<p>In accepting development projects over a certain size, the Group works to reduce risk through discussions and decisions by the management on whether the project can be accepted or not before submitting a quote. Also, prior examinations and monitoring of the progress and profitability of the project are carried out by the Project Management Division and the project management organization of each business in collaboration.</p>	→ See P46 for more details
▶▶▶	<p>The Group works to minimize risk in the provision of system operation services by reinforcing control activities and monitoring systems on a continuous basis.</p>	→ See P49-50 for more details
▶▶▶	<p>The Group carries out its investments upon fully examining the investment effects and risks beforehand.</p>	→ See P19-20 for more details
▶▶▶	<p>Transactions related to the procurement of overseas products are denominated in foreign currencies or Japanese yen. The CTC Group works to minimize exchange rate risk by using methods such as forward exchange contracts at the time of order.</p>	
▶▶▶	<p>In preparation for the occurrence of unforeseen situations, the Group works to reinforce systems for business continuity by developing business continuity plans, establishing safety confirmation systems and developing backup functions.</p>	

Financial Highlights

*CTC adopted international financial reporting standards (IFRS) from the first quarter of fiscal 2014. Figures for fiscal 2013 have been reclassified to reflect the new standards.

Item	JGAAP				
	'07	'08	'09	'10	'11
Operating Results					
Net Sales	319.2	307.2	290.3	283.0	297.7
Cost of Sales	238.8	226.9	213.5	208.1	218.1
Gross Profit	80.4	80.2	76.8	74.8	79.6
(Gross Profit Margin)	25.2%	26.1%	26.5%	26.5%	26.7%
SG&A Expenses	55.4	58.5	55.2	53.5	54.8
Operating Income	25.0	21.6	21.5	21.3	24.7
(Operating Income Margin)	7.8%	7.1%	7.4%	7.5%	8.3%
EBITDA*1	28.1	26.2	27.5	28.0	32.3
Net Income	15.4	12.9	12.4	11.4	13.3
Orders Received	345.8	316.7	285.1	285.2	302.4
Backlog	125.4	134.9	129.6	131.8	136.6
(Backlog Turnover Ratio)*2	71.8%	69.5%	69.1%	68.2%	68.5%
Financial Position at End of Fiscal Year					
Total Assets	218.0	227.4	233.2	238.1	252.7
Total Equity	145.1	147.2	154.6	155.4	158.3
Cash Flows					
Cash Flows from Operating Activities	10.4	11.2	25.2	14.9	21.2
Cash Flows from Investing Activities	3.5	(13.8)	(1.3)	(6.9)	(2.7)
Cash Flows from Financing Activities	(10.1)	(11.1)	(7.2)	(13.4)	(8.9)
Cash and Cash Equivalents at End of Period	70.9	57.2	73.8	68.3	77.8
Capital Investment	6.3	21.4	4.5	8.8	6.2
Depreciation and Amortization	3.1	4.5	5.9	6.7	7.5
Financial Index/Indicator (%)					
ROE*3	10.8	8.8	8.3	7.4	8.5
ROA*4	7.1	5.8	5.4	4.9	5.4
Equity Ratio	66.6	64.7	66.3	65.3	62.7
Dividend Payout Ratio	34.4	40.2	43.7	49.9	43.8
Per Share Data (yen)*5					
Net Income	116	99	97	90	108
Net Assets	1,103	1,149	1,207	1,246	1,302
Dividend	40	40	42	45	47
Per Capita Data (¥ million)*6					
Net Sales	50	45	41	40	41
Operating Income	4.0	3.2	3.1	3.0	3.5

*1 EBITDA = Operating Income + Depreciation and Amortization

*2 Backlog Turnover Ratio = Net Sales / (Backlog of the previous fiscal year + Orders received of this fiscal year) x 100

*3 ROE = Net Income / Average Total Shareholders' Equity x 100

*4 ROA = Net Income / Average Total Assets x 100

*5 CTC conducted a 2-for-1 stock split as of April 1, 2015. For the past data, retroactive revisions were made accordingly.

*6 Figures are calculated with the average number of employees (from April 1 to March 31)

(¥ billion)

(¥ billion)

	'12	IFRS				
		'13	'14	'15	'16	
		Operating Results				
	322.4	Revenue	350.5	381.9	391.6	407.8
	239.1	Cost of Sales	(266.8)	(290.6)	(300.0)	(311.1)
	83.2	Gross Profit	83.7	91.2	91.5	96.7
	25.8%	(Gross Profit Margin)	23.9%	23.9%	23.4%	23.7%
	56.0	Other Income and Expenses	(59.8)	(61.9)	(63.5)	(65.5)
	27.1	Operating Income	23.8	29.3	27.9	31.1
	8.4%	(Operating Income Margin)	6.8%	7.7%	7.1%	7.6%
	33.2	EBITDA	31.3	37.5	36.3	39.5
	16.0	Net Profit Attributable to CTC's Shareholders	14.2	17.4	18.0	21.8
	372.0	Orders Received	369.1	388.0	398.3	437.5
	186.2	Backlog	195.4	201.6	208.3	238.0
	63.4%	(Backlog Turnover Ratio)	63.1%	65.4%	65.3%	63.1%
		Financial Position at End of Fiscal Year				
	270.0	Total Assets	282.6	302.7	307.9	333.1
	164.6	Total Shareholders' Equity	162.9	168.8	179.2	192.1
		Cash Flows				
	9.6	Cash Flows from Operating Activities	6.4	25.8	21.8	25.2
	(10.3)	Cash Flows from Investing Activities	(8.0)	(17.3)	(18.1)	(14.1)
	(11.1)	Cash Flows from Financing Activities	(9.5)	(13.5)	(8.4)	(7.8)
	66.1	Cash and Cash Equivalents at End of Period	55.0	50.1	44.8	48.2
	10.0	Capital Investment	6.9	7.9	11.0	10.7
	6.0	Depreciation and Amortization	7.5	8.2	8.4	8.4
		Financial Index/Indicator (%)				
	9.9	ROE*7	8.9	10.5	10.4	11.8
	6.1	ROA*8	5.1	5.9	5.9	6.8
	61.0	Ratio of Equity Attributable to Owners of the Company	57.7	55.8	58.2	57.7
	39.1	Dividend Payout Ratio	45.8	40.3	45.0	42.3
		Per Share Data (yen)				
	134	Net Profit Attributable to CTC's Shareholders	120	148	155	189
	1,383	Shareholders' Equity	1,384	1,460	1,550	1,662
	52	Dividend	55	60	70	80
		Per Capita Data (¥ million)				
	42	Revenue	45	48	48	49
	3.5	Operating Income	3.1	3.7	3.5	3.8

*7 ROE = Net profit attributable to CTC's shareholders / Average total shareholders' equity (which is based on total shareholders' equity at the beginning and end of the year) x 100

*8 ROA = Net profit attributable to CTC's shareholders / Average total assets (which is based on total assets at the beginning and end of the year) x100

Financial Analysis

Summary of FY2016 Results

Orders received, revenue, all profit items and backlog posted record levels. Profit attributable to owners of the Company was at a record high for the third consecutive year.

- Revenue increased in products and services for distribution, manufacturing and telecommunication companies.
- Gross profit increased due to an increase in revenue and an improvement in the gross profit margin.
- Other income and expenses saw an increase in SG&A expenses such as personnel costs, subcontracting fees and taxes and dues.

Highlights of 2016 Consolidated Earnings

(¥ billion)

Item	'15	'16	YoY Change	Change
Revenue	391.6	407.8	+16.2	+4.1%
Gross Profit	91.5	96.7	+5.1	+5.7%
Gross Profit Margin	23.4%	23.7%	+0.3p	—
Other Income and Expenses	(63.5)	(65.5)	(2.0)	+3.2%
Operating Income	27.9	31.1	+3.1	+11.4%
Operating Income Margin	7.1%	7.6%	+0.5p	—
Net profit Attributable to CTC's Shareholders	18.0	21.8	+3.8	+21.3%
Orders Received	398.3	437.5	+39.2	+9.8%
Backlog	208.3	238.0	+29.7	+14.3%

Revenue

Revenue by business model

- Services saw increases in the installation/establishment of infrastructure devices for distributors, operation of systems for automobile companies, and maintenance for telecommunication companies.
- SI Development saw increases in revenue for distributors and transportation companies.
- Revenue of products was mostly unchanged from the previous year.

* Figures in brackets represent revenue mix percentage.

Revenue by business model

(¥ billion)

Item	'15	'16	YoY Change
Services	158.3 (40.4%)	164.9 (40.4%)	+6.5
SI Development	77.6 (19.8%)	87.1 (21.4%)	+9.5
Products	155.6 (39.8%)	155.7 (38.2%)	+0.1
Consolidated	391.6	407.8	+16.2

Revenue by business group

- The Distribution & Enterprise business saw increases in large-scale infrastructure establishment and development for distributors, as well as development for transportation companies.
- The Telecommunication business saw increases in network and infrastructure establishment for communication companies, as well as in infrastructure establishment for Internet service providers.
- The Public & Regional business was mostly unchanged from the previous year.
- The Finance & Social Infrastructure business was mostly unchanged from the previous year.

Revenue by business group

(¥ billion)

Item	'15	'16	YoY Change
Distribution & Enterprise	99.4	113.1	+13.6
Telecommunication	144.5	147.4	+2.8
Public & Regional	37.6	38.1	+0.5
Finance & Social Infrastructure	51.2	50.3	(0.8)
Other	58.6	58.7	+0
Consolidated	391.6	407.8	+16.2

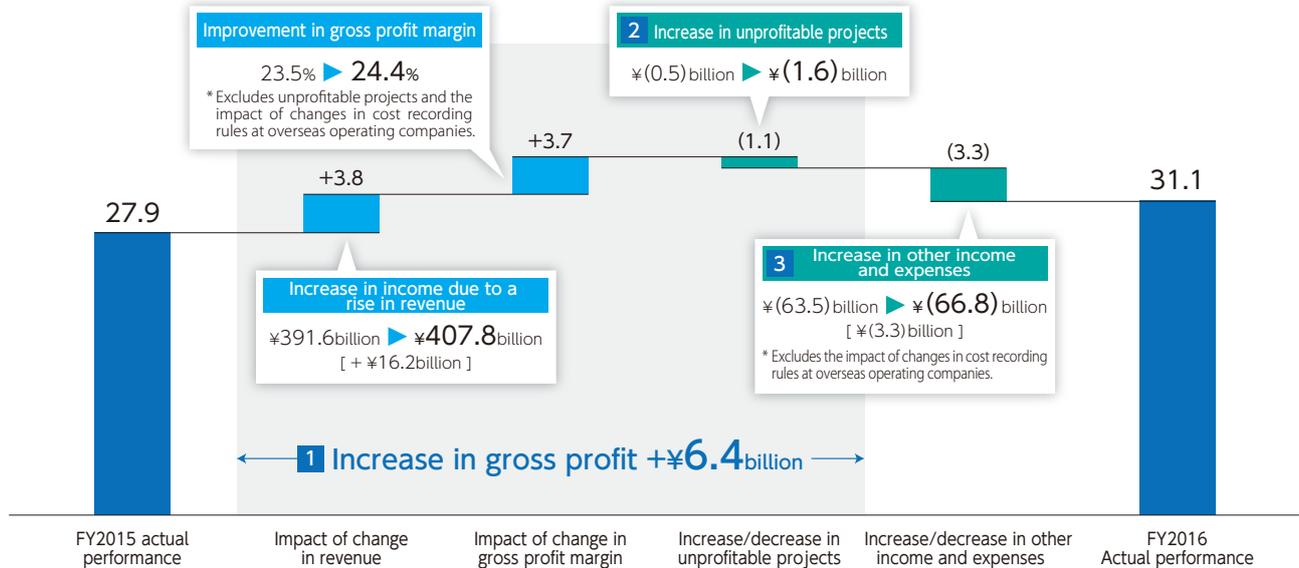
Operating Income

Operating income increased since the rise in gross profit due to the increase in revenue and improvement in the gross profit margin exceeded the increase in unprofitable projects and other income and expenses.

Note: Excludes unprofitable projects and the impact of changes in cost recording rules at overseas operating companies.

Factors for changes in operating income (year on year)

(¥ billion)



1 Gross profit

Profit increase due to an increase in revenue was 3.8 billion yen. Furthermore, profit increase due to an improvement in the gross profit margin was 3.7 billion yen. The gross profit margin excluding unprofitable projects and the impact of changes in cost recording rules at overseas operating companies was 24.4%, a 0.9 percentage point improvement year on year.

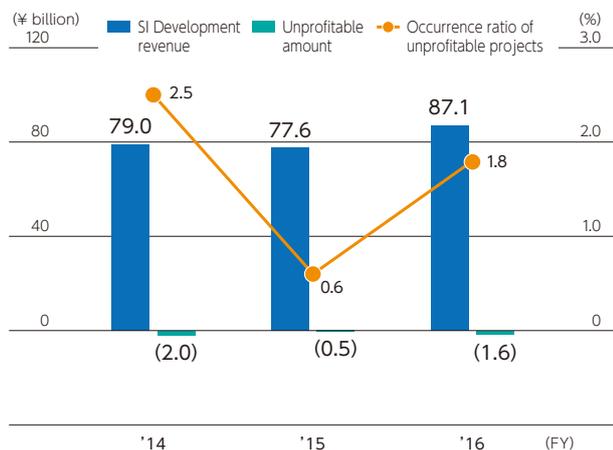
2 Unprofitable projects

Unprofitable projects represented a loss of 1.6 billion yen (a 1.1 billion yen loss of year on year). However, the percentage of unprofitable projects to revenue of SI Development remained within the target of 2.5%.

3 Other income and expenses

Other income and expenses saw an increase mainly in SG&A expenses. Personnel costs increased due to an increase in new employees, promotions and performance-linked bonuses. In addition, subcontracting fees related to the replacement of internal core systems as well as pro-forma standard taxation increased.

SI Development revenue and unprofitable amount



Other income and expenses

(¥ billion)

Item	'15	'16	YoY Change
Personnel costs	(37.0)	(37.8)	(0.7)
Contract employee acceptance fees	(5.7)	(5.6)	+0.1
Depreciation	(2.8)	(2.5)	+0.3
Others	(17.7)	(19.4)	(1.7)
Total SG&A expenses	(63.4)	(65.5)	(2.0)
Other income	0.4	0.3	(0.1)
Other expenses	(0.5)	(0.4)	+0.1
Other income and expenses	(63.5)	(65.5)	(2.0)

Financial Analysis

Orders received

Orders received by business model

- Services saw an increase in orders for maintenance of products from telecommunication companies, and for maintenance and operation of systems from utilities companies.
- SI Development saw an increase in orders from distributors, transportation companies and telecommunication companies.
- Products saw an increase in orders for infrastructure devices from distributors as well as for networks from telecommunication companies.

* Figures in brackets represent revenue mix percentage.

Orders received by business group

- The Distribution & Enterprise business saw increases in orders for large-scale infrastructure establishment and development from distributors, as well as for development from transportation companies.
- The Telecommunication business saw an increase in orders for networks from telecommunication companies.
- The Public & Regional business saw increases in orders for networks from public corporations as well as for cooperative business with regional partner companies.
- The Finance & Social Infrastructure business saw an increase in orders for infrastructure establishment from utilities companies.

FY2017 Plans

In the IT industry, the Company assumes that robust IT investments in the distribution, manufacturing and financial fields will continue, and that the telecommunications field will enter a recovery phase. The Company expects revenue to increase based on business expansion in the telecommunications field and the backlog as of the end of FY2016 to contribute to sales.

We will aim to increase profits by, in addition to the effects of revenue increase, improving the gross profit margin through the implementation of measures to improve profitability.

As a result, FY2017 plans are: revenue of 425.0 billion yen, operating income of 32.5 billion yen, and net profit attributable to CTC's shareholders of 22.5 billion yen.

Orders received by business model

(¥ billion)

Item	'15	'16	YoY Change
Services	161.4 (40.5%)	176.4 (40.3%)	+14.9
SI Development	82.6 (20.7%)	93.3 (21.3%)	+10.6
Products	154.2 (38.8%)	167.8 (38.4%)	+13.5
Consolidated	398.3	437.5	+39.2

Orders received by business group

(¥ billion)

Item	'15	'16	YoY Change
Distribution & Enterprise	110.9	124.6	+13.7
Telecommunication	141.3	158.2	+16.9
Public & Regional	36.7	39.0	+2.3
Finance & Social Infrastructure	48.9	51.8	+2.8
Other	60.3	63.7	+3.3
Consolidated	398.3	437.5	+39.2

FY2017 Consolidated Plans

(¥ billion)

Item	'16 (Results)	'17 (Forecast)	YoY Change	Change
Revenue	407.8	425.0	+17.1	+4.2%
Gross Profit	96.7	101.0	+4.2	+4.4%
Gross Profit Margin	23.7%	23.8%	+0.1p	—
Other Income and Expenses	(65.5)	(68.5)	(2.9)	+4.4%
Operating Income	31.1	32.5	+1.3	+4.4%
Operating Income Margin	7.6%	7.6%	+0.0p	—
Net profit Attributable to CTC's Shareholders	21.8	22.5	+0.6	+2.9%
Orders Received	437.5	430.0	(7.5)	(1.7%)
Backlog	238.0	243.0	+4.9	+2.1%

Statement of Consolidated Financial Position

Assets increased 25.1 billion yen compared to the previous year-end mainly due to increases in cash and cash equivalents and trade and other receivables.

Liabilities increased 12.5 billion yen compared to the previous year-end mainly due to increases in income taxes payable and employee benefits.

Equity increased 12.6 billion yen compared to the previous year-end due to an increase in net profit, despite a decrease owing to dividend of surplus.

Consolidated Statement of Cash Flows

Free cash flows (the sum of cash flows from operating activities and investing activities) for FY2016 totaled 11.0 billion yen, an increase of 7.3 billion yen year on year.

Financing activities used net cash of 7.8 billion yen, which was almost the same as the previous fiscal year. As a result, cash and cash equivalents at the end of the fiscal year totaled 48.2 billion yen, an increase of 3.3 billion yen year on year.

Net cash provided by operating activities was 25.2 billion yen (an increase of 3.3 billion yen year on year), after adjusting profit before tax for depreciation and amortization expenses, inventories and income taxes paid.

Net cash used in investing activities totaled 14.1 billion yen (a decrease of 4.0 billion yen year on year), mainly due to a decrease in purchases of investment securities.

Net cash used in financing activities totaled 7.8 billion yen (a decrease of 0.5 billion yen year on year) mainly due to payment of dividends.

Capital Expenditures

Capital expenditures for FY2016 totaled 10.7 billion yen. Investments were mainly for the cloud service field, enhancement of existing data centers, and renewal of internal core systems.

ROE

ROE was 11.8%, a 1.4 percentage point year-on-year rise.

Statement of Consolidated Financial Position (¥ billion)

Item	March 2016	March 2017	YoY Change
Current assets	229.0	250.1	+21.1
Non-current assets	78.9	82.9	+4.0
Total assets	307.9	333.1	+25.1
Current liabilities	108.5	121.6	+13.0
Non-current liabilities	16.3	15.7	(0.5)
Total liabilities	124.8	137.4	+12.5
Total equity	183.0	195.7	+12.6
Liabilities and total shareholders' equity	307.9	333.1	+25.1

Consolidated Statement of Cash Flows (¥ billion)

Item	'15	'16	YoY Change
Cash and Cash Equivalents at beginning of Period	50.1	44.8	(5.2)
Cash Flows from Operating Activities	21.8	25.2	+3.3
Cash Flows from Investing Activities	(18.1)	(14.1)	+4.0
Cash Flows from Financing Activities	(8.4)	(7.8)	+0.5
Cash and Cash Equivalents at End of Period	44.8	48.2	+3.3
Free Cash Flows	3.6	11.0	+7.3

Capital Expenditures and Depreciation amount (¥ billion)

Item	'14	'15	'16
Capital Expenditures	7.9	11.0	10.7
Depreciation Amount	8.2	8.4	8.4

ROE

Item	'14	'15	'16
ROE	10.5%	10.4%	11.8%

Non-financial Highlights

Human Resources-related Data *Data calculation reference dates: Data calculated on March 31 of each fiscal year. But disabled employee figures calculated on June 1 of each fiscal year.

Consolidated

Item	Unit	'13	'14	'15	'16	
Employees	Men	People	6,571	6,687	6,817	6,878
	Women	People	1,146	1,170	1,176	1,222
	Total	People	7,717	7,857	7,993	8,100

Non-consolidated

Item	Unit	'13	'14	'15	'16	
Employees	Men	People	3,339	3,307	3,326	3,345
	Women	People	562	588	592	613
	Total	People	3,901	3,895	3,918	3,958
Average years worked	Year	11.8	12.2	12.7	13.2	
Turnover	People	82	88	89	109	
Female managers*	Number	People	41	45	48	49
	Percentage	%	3.8	4.0	4.4	4.5
Percentage of disabled employees	%	2.00	2.20	2.15	2.23	
Annual average number of holidays taken	Day	12.3	12.3	13.0	13.5	
Childcare leave system users		People	57	64	67	82
	(Male employees)	People	1	4	2	17
Rate of return from childcare leave	%	98	98	100	99	
Reduced working hours system users	People	60	73	78	98	
Nursing care holiday system users	People	100	109	137	165	
Nursing care leave system users	People	1	2	1	2	
Time off for caregivers system users	People	10	12	19	34	
Number of training participants (employees)	People	116,256	149,612	111,553	115,451	
Average hours of training per person	Hour	approx. 57	approx. 60	approx. 52	approx. 49	

*Leading position means managers and specialists (certified professionals till FY2014).

Environmental Data from CTC Group Offices and Data Centers

Item	Unit	'13	'14	'15	'16	
Offices	Energy used	kL	5,212	3,567	3,383	3,293
	Greenhouse gas	t-CO ₂	10,624	7,138	6,706	6,437
	Specific energy consumption*1		47.64	34.66	24.25	23.06
Data Centers	Energy used	kL	31,136	29,362	29,980	29,625
	Greenhouse gas	t-CO ₂	64,315	61,530	60,880	59,210
	Specific energy consumption*2		1.881	1.803	1.772	1.702
Major Overseas Offices	Greenhouse gas*3	t-CO ₂	—	—	695.4	722.8

*1 Energy used (kL) x Floor space / number of employees *2 Whole DC (data centers) energy used (kL) / IT equipment energy used (kL)

*3 CO₂ emission volume when electricity is used in major overseas offices is calculated based on the 2012 figures on the list of grid emission factors by country which is officially announced by IGES (Institute for Global Environmental Strategies).

Glossary

■ Agile development

A rapid, incremental approach to software development based on close onsite collaboration with clients, early development of prototypes and feedback from clients and the market.

■ Eco system

A system where multiple companies form partnerships in product development and business activities to achieve mutual prosperity beyond industry frameworks and borders by making the most of their technologies and capital, and involving multiple companies, consumers and society.

■ Open innovation

An innovation methodology for creating innovative products and business models by combining technologies and ideas of not only one company, but also from outside that company.

■ Virtualization technology

Technology that integrates or divides resources in servers and other hardware without any physical change in the hardware. The technology can create multiple virtual servers in a single physical server or create a single virtual hard disk from multiple disks.

■ Carrier grade

A term for expressing the level of quality and reliability of a system. It refers to a level high enough for a telecommunications carrier to use for communication networks.

■ Data offloading

To disperse load by switching telecommunication from mobile phones to networks other than mobile phones.

■ Hackathon / Ideathon

The words "hackathon" and "ideathon" are portmanteau of the words "hack" (adapting or improving computer programs), "idea" and "marathon." At hackathons, computer engineers and other participants compete intensively in a fixed timeframe to develop programs or services with new capabilities or outcomes. At ideathons, teams discuss new ideas and collaborate on problem-solving.

■ Big data

A term for vast data sets that are too large to store, manage or analyze using traditional database management systems and processing applications. The ability to analyze big data is expected to yield new business insights and lead to the development of new services.

■ Block chain

A new type of FinTech (see below) used to record transactions in virtual currencies such as Bitcoin. By dispersing data on computers distributed worldwide without centralized control, block chains enable the creation of robust networks that are resilient to tampering and destruction.

■ AR (Augmented Reality)

Technology that uses computers to superimpose information on real landscapes. For example, location information and computer graphics are superimposed on landscapes shot by a smartphone camera.

■ BIS (Bank for International Settlements)

An organization established in 1930 consisting of central banks.

■ BPO (Business Process Outsourcing)

A type of outsourcing where companies contract out business administration, human resources, accounting and other business functions to specialist companies. In contrast to traditional outsourcing, BPO companies typically provide one-stop support covering areas from the redesign of business processes through to operation.

■ CAD (Computer Aided Design)

Designing and drawing of machines and structures using computers.

■ CAE (Computer Aided Engineering)

A system that uses computers to simulate whether or not a product design will satisfy the required performance.

■ CIM (Construction Information Management/Modeling)

A system for sharing information related to construction and improving the efficiency of operations.

■ ERP (Enterprise Resource Planning)

An integrated approach to managing and allocating business resources (personnel, funds, facilities, information, etc.) to improve operational efficiency and optimize management. ERP also refers to integrated software applications that help companies achieve those objectives.

■ FinTech

A portmanteau of the words "finance" and "technology, FinTech refers to new IT tools in the financial sector. Common examples include online settlement technology and cloud-based household budget services. FinTech has attracted growing attention in recent years amid growth in the number of relatively small companies providing new services.

■ FRTB (Fundamental Review of Trading Book)

Regulations regarding trading operations in financial markets. Announced in January 2016 by the Basel Committee on Banking Supervision, an international financial regulations organization.

■ IoT (Internet of things)

The embedding of various physical devices, not just computers, with Internet connectivity, creating networks that enable automated verification, control and remote measurement.

■ Managed security service (MSS)

A security service that monitors firewalls and other security systems in real-time 24/7 all year round, gathering data to analyze and defend against threats.

■ OpenStack

A software platform for cloud computing. OpenStack is open-source software available to anyone for any purpose.

■ OSS (Open Source Software)

Software that is available for free and allows anyone to make improvements or add functions and redistribute.

■ OT (Operational Technology)

Technology or know-how to control the monitoring and operation of devices in social infrastructure systems and industrial systems.

■ PCIDSS (Payment Card Industry Data Security Standard)

A security standard in the credit card industry, established for the safe handling of credit card member data by merchants and service providers.

■ RPA (Robotic Process Automation)

Initiatives that use cognitive technology including rule engines, AI and machine learning to carry out, on humans' behalf, work that was traditionally done by humans.

Management Team

As of June 21, 2017

Directors

Satoshi Kikuchi	President & CEO
Toru Matsushima	Director & Executive Vice President Assistant to the President & CAO CFO & CCO COO, Global Business Development
Masaaki Matsuzawa	Director & Executive Vice President COO, Distribution & Enterprise Group In charge of Distribution & Enterprise Group / Telecommunication Group / Public & Regional Business Group / Finance & Social Infrastructure Group
Tadataka Okubo	Director & Senior Managing Executive Officer COO, Advanced IT Strategy Group In charge of Advanced IT Strategy Group / IT Services Group CTO, CIO
Takahiro Susaki	Director & Managing Executive Officer COO, Public & Regional Business Group
Makiko Nakamori	Director * ¹
Toshio Obi	Director * ¹
Tatsushi Shingu	Director
Tadayoshi Yamaguchi	Director

Auditors

Shintaro Ishimaru	Corporate Auditor * ²
Hiroshi Takada	Corporate Auditor
Toshiaki Tada	Corporate Auditor * ²

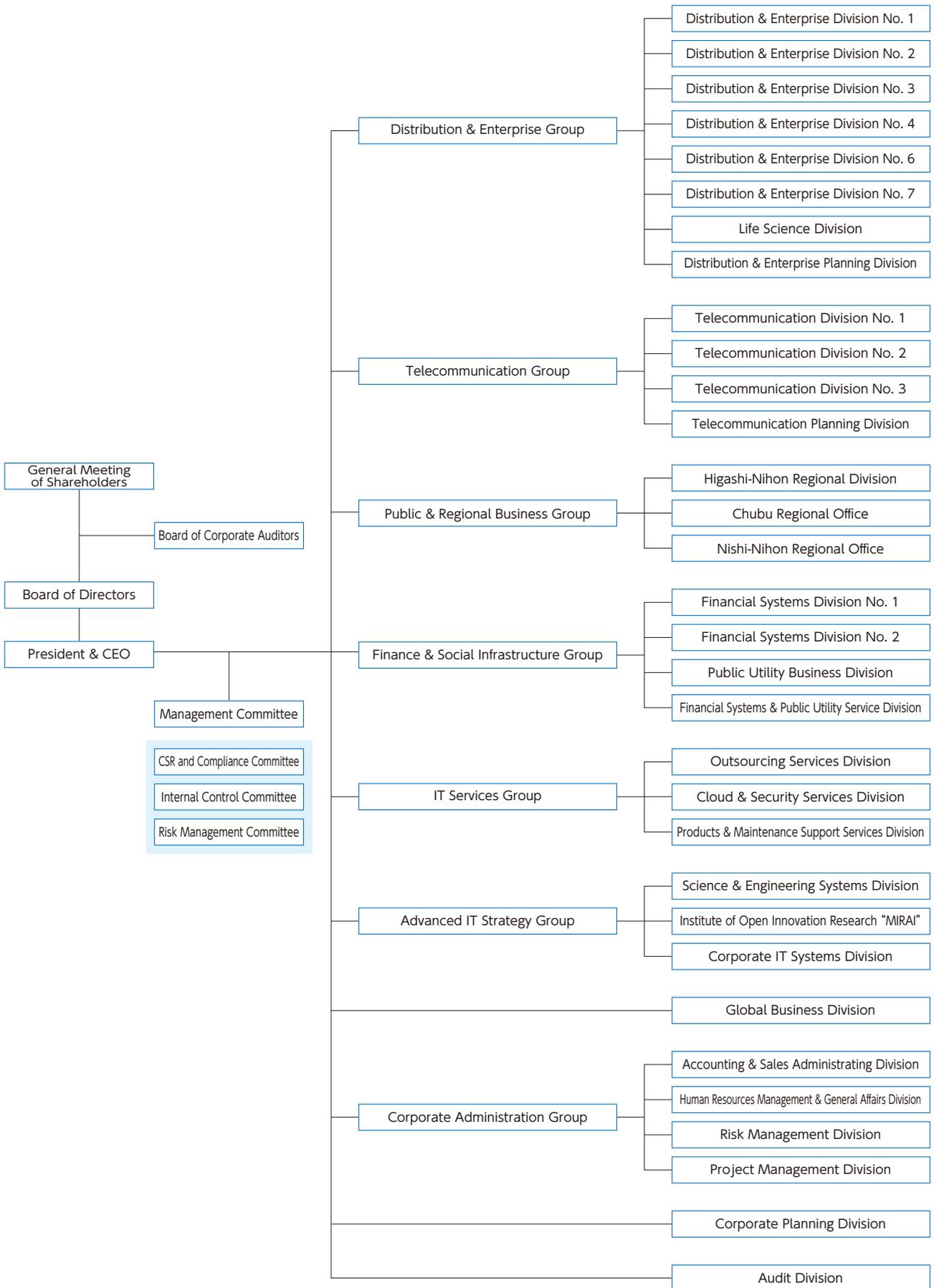
1. Outside director as defined in Article 2, Item 15 of the Companies Act
2. Outside auditor as defined in Article 2, Item 16 of the Companies Act
Outside directors Makiko Nakamori and Toshio Obi, and outside auditor Toshiaki Tada are independent from CTC, our parent company and major suppliers. As independent officers, they have no inherent conflicts of interest with regular shareholders.

CFO (Chief Financial Officer)
CCO (Chief Compliance Officer)
CTO (Chief Technology Officer)
CIO (Chief Information Officer)

Executive Officers

Eiji Haraguchi	Managing Executive Officer COO, Finance & Social Infrastructure Group
Yasuhiko Terada	Managing Executive Officer COO, Telecommunication Group
Hisashi Eda	Managing Executive Officer Deputy COO, Public & Regional Business Group Assistant to COO, Distribution & Enterprise Group General Manager, Chubu Regional Office
Toshiyuki Awai	Managing Executive Officer COO, IT Services Group
Takanori Minatohara	Managing Executive Officer Deputy COO, Distribution & Enterprise Group General Manager, Distribution & Enterprise Division No. 2
Noboru Omoto	Managing Executive Officer Deputy COO, Distribution & Enterprise Group General Manager, Distribution & Enterprise Division No. 3
Minoru Nishiyama	Managing Executive Officer Deputy CAO, Deputy CFO General Manager, Accounting & Sales Administrating Division
Yasuhide Masanishi	Executive Officer Assistant to COO, Distribution & Enterprise Group President & CEO, Asahi Business Solutions Corp.
Shinichi Nakano	Executive Officer General Manager, Outsourcing Services Division
Hirohito Ohashi	Executive Officer General Manager, Telecommunication Division No. 2
Yasushi Morimoto	Executive Officer General Manager, Audit Division
Tomohito Arai	Executive Officer Assistant to President (in charge of special missions) Assistant to COO, Advanced IT Strategy Group General Manager, Global Business Division
Nagaki Fujioka	Executive Officer General Manager, Cloud & Security Services Division
Seiji Nagamatsu	Executive Officer Assistant to COO, Distribution & Enterprise Group
Hiroshi Torigoe	Executive Officer General Manager, Nishi-Nihon Regional Office
Tatsuya Matsumaru	Executive Officer General Manager, Financial Systems Division No. 2
Tadaaki Otsuka	Executive Officer President & CEO, ITOCHU Techno-Solutions America, Inc.
Junji Hirooka	Executive Officer General Manager, Corporate Planning Division
Yoshinori Yoshida	Executive Officer General Manager, Financial Systems Division No. 1
Shinichi Hirayama	Executive Officer General Manager, Human Resources Management & General Affairs Division

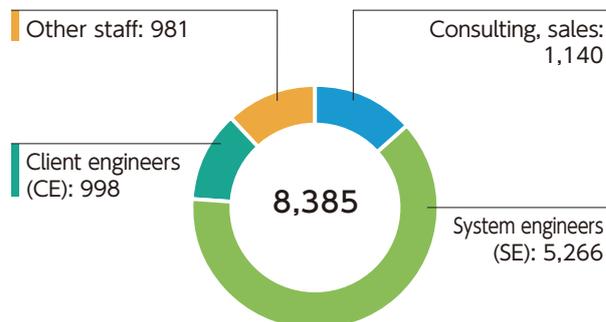
Organization Chart As of April 1, 2017



Corporate Data As of April 1, 2017

Company Name	ITOCHU Techno-Solutions Corporation (CTC)
Head Office	Kasumigaseki Bldg., 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo 100-6080, Japan Phone: + 81-3-6203-5000 URL: http://www.ctc-g.co.jp/en/
Established	April 1, 1972
Paid-in Capital	¥21,763 million
Business Lines	Sales, maintenance and support of computers and network systems; commissioned software development; information processing services; information services related to science and engineering; support; other.
Employees	8,385 (CTC Group total)

Composition of CTC Employees



CTC Group Companies

Subsidiaries	Company	Paid-in Capital	Main Business Activities
	CTC TECHNOLOGY CORPORATION	¥450 million	System maintenance and support
	CTC System Management Corporation	¥300 million	Maintenance and system management services, support services for systems and networks, system construction services, IT-related training
	CTCSP CORPORATION	¥200 million	Sales of network and security-related equipment, storage devices and packaged software, and provision of related services
	CTC FACILITIES CORPORATION	¥100 million	Building facility operations management activities for computer centers (Yokohama, Kobe, Otemachi, Shibuya, Mejirozaka)
	CTC BUSINESS SERVICE CORPORATION	¥100 million	Various business functions (human resources, administration) entrusted by CTC Group companies, as well as planning, producing and maintaining web content, and planning and producing advertising materials
	CTC First Contact Corporation	¥50 million	Contact center operations, helpdesk services, IT training, planning and implementation of IT training
	Asahi Business Solutions Corp.	¥110 million	Overall system development, maintenance, operation and IT consulting
	HINARI Corporation	¥30 million	Massage and cleaning services for Group companies, light agricultural work and contracting
	ITOCHU Techno-Solutions America, Inc.	\$3,750,000	Maintenance and support of computers and network systems, exporting of IT products, research into state-of-the-art technology and market trends
	CTC Global Sdn. Bhd.	RM62,118,000	Reselling hardware and software products and providing maintenance service
	CTC Global Pte. Ltd.	S\$2,000,000	Reselling hardware and software products and providing maintenance service

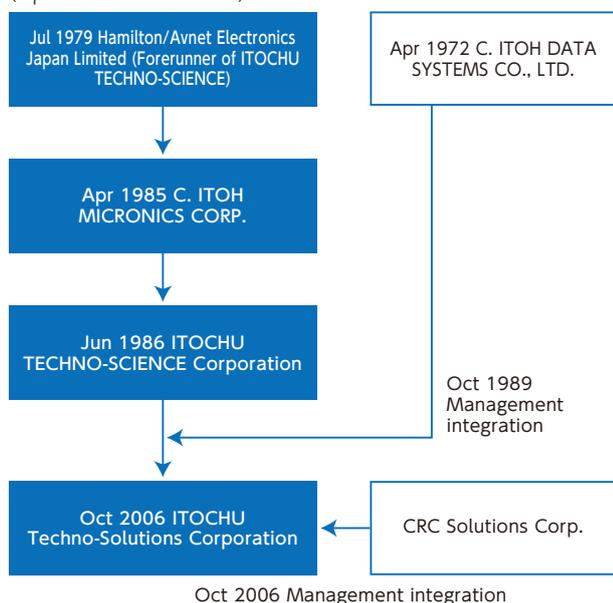
Associated Companies	Company	Paid-in Capital	Main Business Activities
	ITOCHU Technology Ventures, Inc.	¥100 million	Operation of investment funds of venture companies
	Netband Consulting Co., Ltd.	THB 55,000,000	Sales of network products and solutions

Three other companies (one in Japan, two overseas)

*As of July 3, 2017, CTC First Contact Corporation became a joint venture of the Company and Bellsystem24 Holdings, Inc.

Company History

(Apr 1972 - Oct 2006)



Company History (Oct 2006 - April 2017)

Oct 2006	● ITOCHU TECHNO-SCIENCE Corporation and CRC Solutions Corp. merged to form ITOCHU Techno-Solutions Corporation.
Jan 2007	● Established the Osaki Development Center in Osaki, Shinagawa-ku, Tokyo
Jul 2008	● Established CTC SYSTEM OPERATIONS Corporation as a consolidated subsidiary
Oct	● Established the Mejirozaka Data Center in Bunkyo-ku, Tokyo
Apr 2010	● Established a company for employment promotion of handicapped persons, HINARI Corporation
Apr 2011	● Changed company names of CRC Systems Corp. and CRC Facilities Corp. to CTC SYSTEM SERVICE CORPORATION and CTC FACILITIES CORPORATION, respectively ● Established the Singapore Branch
Apr 2012	● Established ITOCHU Techno-Solutions America, Inc., first subsidiary in North America
Mar 2013	● CSC ESI Sdn. Bhd. in Malaysia and CSC Automated Pte. Ltd. in Singapore converted to subsidiaries through share acquisitions.
May 2013	● Changed company names of CSC ESI Sdn. Bhd. and CSC Automated Pte. Ltd. to CTC Global Sdn. Bhd. and CTC Global Pte. Ltd., respectively.
Apr 2014	● The former CTC System Operations Corporation and CTC System Service Corporation were merged and the company name was changed to the CTC System Management Corporation. ● The company name of CTC Laboratory Systems Corporation was changed to CTC Life Science Corporation.
May 2015	● The company name of First Contact Corporation was changed to CTC First Contact Corporation.
Apr 2017	● Conducted an absorption-type merger with CTC Life Science Corporation

Stock Information As of March 31, 2017

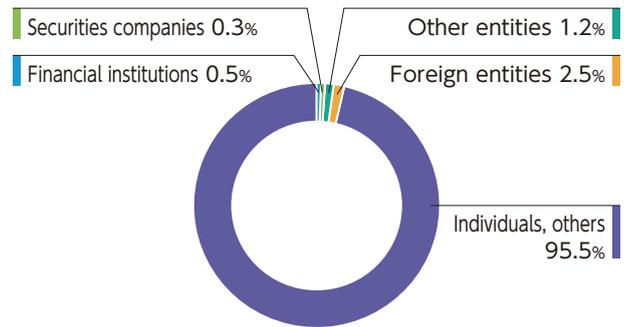
Authorized 246,000,000 shares
 Issued 120,000,000 shares
 Shareholders 12,736

Major Shareholders

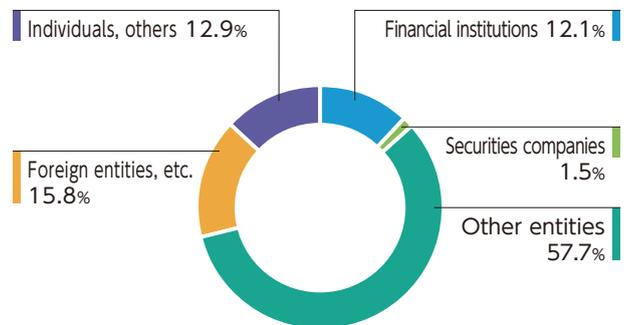
	Number of Shares	(%)
ITOCHU Corporation	67,330,800	56.11
Japan Trustee Services Bank, Ltd. (Trust Account)	4,131,800	3.44
CTC Employee Shareholding Association	2,431,036	2.03
The Master Trust Bank of Japan, Ltd. (Trust Account)	2,021,800	1.68
Japan Trustee Services Bank, Ltd. (Trust Account 9)	1,001,300	0.83
GOVERNMENT OF NORWAY	893,224	0.74
Trust & Custody Services Bank, Ltd. As trustee for Mizuho Bank, Ltd. Retirement Benefit Trust Account re-entrusted by Mizuho Trust and Banking Co., Ltd.	885,360	0.74
CHASE MANHATTAN BANK GTS-CLIENTS ACCOUNT ESCROW	824,369	0.69
Japan Trustee Services Bank, Ltd. (Trust Account 5)	821,900	0.68
The Gibraltar Life Insurance Co., Ltd. (General Account D)	746,200	0.62

* Additionally, the company holds 4,385,798 shares of treasury stock.

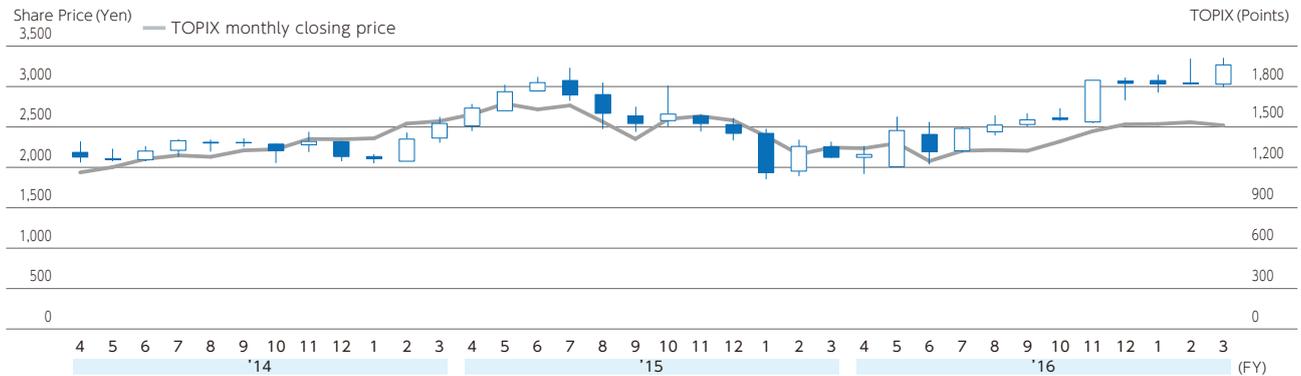
Breakdown by Number of Owners



Ownership by Percentage Shareholding

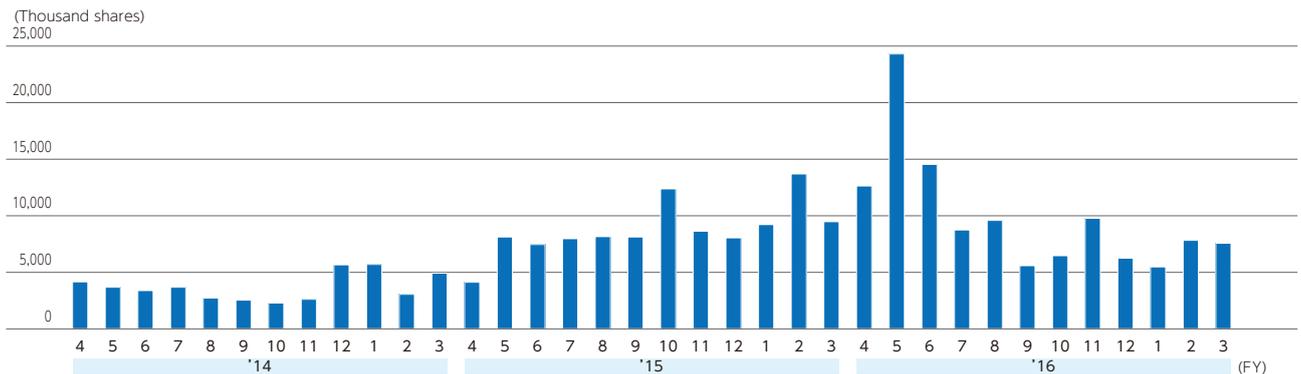


Stock Price Trend



*The Tokyo Stock Price Index (TOPIX) is a stock market index tracking all domestic stocks on the First Section of the Tokyo Stock Exchange.
 *CTC implemented a 2-for-1 stock split effective April 1, 2015. For the past data, retroactive revisions were made assuming the mentioned split was conducted.

Trading Volume Trend



CTC

Challenging Tomorrow's Changes



This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

