

Manufacturing that creates harmony between the environment, people and goods

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SANGO

SANGO Group Report

2020



With the courage to change, we will share the mission of Sango and continue contributing to society.

President Kazo Tennekawa.

Social role and responsibility of the Sango Group

In the beginning of 2020, COVID-19 began its global spread and exposed the world to an unprecedented crisis. Although the automotive industry was already experiencing a major, once-in-a-century transformation, this state of emergency has renewed the sense that we cannot simply rely on conventional beliefs to navigate turbulent times.

However, no matter the circumstance and so long as this company exists, we must never forget our

mission. Our role and responsibility to society is "contribution through manufacturing" and we shall remain steadfastly dedicated to this core principle.

Company Creed

Three intertwined elements of prosperity Prosperity for our country, for our company and for ourselves



With a steadfast commitment to the preservation of our family-like bond and teamwork, and the development of our human resources. manufacturing skills, and environmental policy, we shall persevere in our challenge to create Sango products that contribute to global society.





FY 2019 Review - 2030 Long-term Outline -

In FY 2019, steady progress has been made in line with the "2030 Long-term Outline" management vision, which was formulated in 2018. In dividing our approach into three major areas, the main results of the last fiscal year are shown to the right. The long-term 2030 outline shown here and the results to date are only excerpts. In fact, the Sango Group is carrying out a broad range of activities in line with its long-term management plan, ranging from management planning, development, manufacturing, and sales to work styles and greater progress toward further expansion.

Our accumulated knowledge and decisive action will pave the way for a new Sango Group 2030 Long-term Outline

	New products that utilize core technologies
notive	 Development of new products that utilize thermal management technologies
	Development of new products that utilize forming and joining technologies
	Power train business (Exhaust system products)
	For passenger cars:
	Development of new products utilizing integrated / reinforced noise reduction,
	emissions control, and thermal management technologies
	For commercial vehicles:
biles	Promotion of sales to multiple customers through innovative emissions control technology
	Chassis business (Drive system products, electric system products)
	Development of new products based on Sando arsenal of forming technologies



New approaches

- Development of a "circulation muffler", a heavy-duty commercial vehicle muffler equipped with next-generation technology
- Research on "construction pipe", a new business that utilizes Sango proprietary technology
- Maintaining existing business and building new business growth Establishment of "SAM", a new group company in Mexico and the plant construction
- Expansion of sales to new customers (S Co., M Co.) Business management innovation
- Renovation of Sango Toyota Technical Center's 2nd Tech Center, which integrates development teams
- Commencement of new working styles, such as using more laptops in the office and introducing technologies at manufacturing sites

A corporate group where its employees and companies take on inspirational challenges to achieve new progress

- A corporate group that offers new value to non-automotive fields, achieving a safe, secure environment and way of life
 - laintaining existing business and building new business growth >Promotion of sales to overseas customers, while maintaining and expanding current business through enhanced, superior cost competitivenes Maintaining and expanding precision steel products by enhancing processing techniques Business management innovation Greater global management Management efficiency reforms through restructuring within the organization
 Strengthening of group company business foundations and development of a global governance system Expanded functions to create new products Enhancement of R&D functions (such as the Sango Group Toyota Technical Center)
 - Shifting of resources through selection and centralization, and active utilization of alliances with other companies
 - Major changes to create new working styles
 - Work process reform through the rebuilding of IT infrastructure
 - Practical implementation of work styles that will that will give employees both a sense of purpose and motivate them to take on new challenges in their work



Located at Sango's Toyota Technical Center, the 2nd Tech Center's R building renovation is the visualization of one Sango innovation. The aim of the renovation is to spur the creation of new business and products, to respond to customers in a timely manner, and to foster creativity by improving the office environment. For this reason, development-related departments were organizationally consolidated in the center to accelerate development capabilities. In addition, by providing office facilities in line with such current trends as a collaborative work area, break area, and work area with free-address seating, the R building has become a development base that symbolizes "Sango—a company known for its technology and taking on challenges".



4th floor, R building at Sango's Toyota Technical Center

However, now that two years have passed since its formulation, I think it is time for us to review some parts of the "2030 Long-term Outline". For example, the use of such expressions as "automotive parts" or the "powertrain business", "chassis business", and "body components business". So long as we continue using

these familiar terms, we will go no further than an extension of current conventions.

Our mufflers are equipped with functions that enable them to purify the air as well as reduce noise at the same time. If we consider the manufacture of emission control devices rather than mufflers, this technology need not necessarily be restricted to automotive parts. We should consider how our technology can be used for medical care, agriculture, and other fields, as well as for mobility. In more familiar words, instead of saying powertrain or chassis, we should stretch our imagination and pursue the dream and potential of secondary pipe processing technology. Thus, when exploring how our technology can contribute to society, it is essential that we pursue flexible ideas which go beyond conventions.

That is, Sango's future depends on the development of human resources.

FY 2019 review - Promotion of CSR -

CSR is an eternal approach for Sango. In FY 2019, in terms of society (S), we promoted the "Overseas Trainee System", which sends young employees in their 20s to overseas facilities for training. In terms of governance (G), we implemented a compliance promotion month and other activities. For the environment (E), we set specific targets by formulating "The 1st Environmental Action Plan" as a strategy for achieving the Sango Environmental Challenge 2050. In particular, having recognized the importance of tree

CSR Policy To be a company that contributes to society, is trusted, and grows sustainably



planting long before many other companies and with long years of experience in this area, these initiatives have grown to include presentations to regional communities at the behest of local governments and educational institutions. It is at this moment, as society struggles with the outbreak of COVID-19, that I cannot help but reflect on "coexistence with nature." We are facing the fact that there are things that exist in this world that go beyond human imagination. Japanese used to feel the awe of nature. While feeling the need to regain that respect for nature, we should take pride in carrying out environmental activitiesrepresented by the tree planting that Sango has been implementing.

This area also depends on the development of human resources.





Planting trees at Toyohashi Plant

Imagining Sango in 10 years

Although we are currently facing difficult circumstances, we should picture the next 10 years with a bright sense of hope. I believe our offices and plants will be even smarter. However, behind the scenes of the sparkling clean plant along the visitor's route, I also want to see the gritty, work-worn hands of a Sango embracing the hard work of manufacturing.

No matter how advanced AI or IoT becomes, there are things that only people can do. And everyday life is built by the hands of these people. As Sango is a manufacturing company, I hope that we can demonstrate the potential of our workplace by enhancing our core technologies, such as welding, stamping, secondary processing, and pipe bending, even if the products that we manufacture expand into unknown areas.

Recently, I have been very interested in YouTube. Until now, I have received my information from newspapers, TV, books, and the words of experts; however I have found that the new media is abound with

Message from the President

new information. I believe that rather than how correct an item is, the more knowledge you have, the better. The habit of picking up information on your own volition is what is important, along with researching it again on your own, and then thinking about this information to lead you to an answer. Through the accumulation of exciting efforts that will stimulate both the left and right sides of the brain, I am looking forward to 10 years hence when we see more and more self-reliant employees paving the way for Sango's future.

Again, this will depend on the development of human resources.

This period of once-in-a-century transformation and the coronavirus shock have caused the collapse of concepts that were once taken for granted, requiring that we build new ones. Even the ongoing 30-year expansion of globalization in Japanese corporations has come to a halt. In all likelihood, the better path for the Sango Group will be to change the conventional management style to a different approach in the future-such as each overseas group company being managed independently, rather than by the head office in Japan, and the decentralization of sales management functions at the head office, dividing them up between the head office and group companies, even for group companies

Amidst such changes, as the Sango Group I want to consistently share one passion and philosophy with all employees. The unchanging spirit of "Contribution to society through manufacturing", which I mentioned earlier, is in other words, the company creed. Sango will continue to grow and develop freely, and along with the local community, work to make broad-ranging contributions to society.

in Japan.



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ions

Progress of Emission Control Dev ices for Trucks – Contributing to the Environment Through Emiss ion Control Devices

In the 1980s, factory emissions became a serious air pollution problem. In addition, trucks on the road belching black smoke also began to gain attention as an air pollution problem. The Sango Group will continue working with truck manufacturers, as we take on the challenge of becoming a world class manufacturer of environmentally-friendly diesel emission control devices.

Changes in emission regulation values for Particulate Matter (PM = black smoke) and exhaust system specifications (for heavy-duty vehicles)



Mass production of the 4th generation: tackling difficult manufacturing processes and meeting high performance targets

We began collaborating with Hino Motors in 1998 to develop a diesel engine vehicle exhaust system that would come closer to the colorless emission of gasoline engine vehicles. In 2004, we developed a system that dramatically reduced black smoke emission by installing a DPF* in the muffler. The DPF temporarily stores the black smoke until it can be burned off. Although we had to overcome difficulties in assuring filter retention within the DPF, we were able to bring the 2nd generation system into mass production. Following this, we took on the new challenge of developing the 3rd generation, which we call the S-shape muffler. To ensure prompt decisions and swift action, every week specialists from various Sango divisions would catch the first bullet train of the morning to be in time for 10-hour meetings with the customer in the Kanto (Tokyo) area. This resulted in the adoption of items novel for that era, such as difficult processing techniques for large stampings, welding processes never attempted before and special ways to handle heavy items, dozens of bolt and nut fasteners for each assembly, hydroforming of ferritic stainless steel, and the use of super-stainless steel materials. The weight of the finished assembly is 110 kg (for a 1.8 L engine). Now Sango has moved on to the development of the 4th generation. The finished assembly will be even larger, with a weight of 130 kg and a total weld length of 21 meters (about twice the weld length of the 3rd generation assembly). This time we are facing the challenges of new difficult processing techniques, as well as short prototype lead times, as we dedicate our utmost to the development of this new product. * DPF: Diesel Particulate Filter

Message from the Designer



Advanced Design G, Engineering and Sales Department **Takaomi Kamiya** The Hino Motors policy of equipping trucks and buses with DPFs was initially proposed in 2001. Although their vehicles were still able to meet emission regulations without a DPF, I was deeply impressed by the fact that everyone at Hino, including then-Chairman Jagawa, was determined to pioneer the introduction of a DPF on the market. Sango was simultaneously awarded business for exhaust systems and DPF mufflers from heavy duty down to light duty trucks. Looking back on it now, I can't believe we started this development with just three people.



During development, there were many times when we were unable to achieve acceptable results. Our boss encouraged us by saying "Now is the time to work especially hard. Doing so now will make the next five years easier." Believing his elegant fabrication, we worked very hard. In spite of the challenging situation, we were able to take on the work in a positive way, thanks to the cooperation of everyone involved. With pride in the contribution our products can make to the environment, I hope to continue our work together in development. Special Feature

Production base for truck products Sango Kanto Co., Ltd.

Emission control devices for installation on diesel trucks are assembled at Sango Kanto in Shimotsuma City, Ibaraki Prefecture and delivered in a steady stream to such truck manufacturers as Hino Motors and Isuzu Motors. The following explains the manufacturing processes used to produce diesel truck emission control devices, which play a vital role in the Japanese logistics sector.

Manufacturing process

Company	Profile	History	
Company Name Representative Address	Sango Kanto Co., Ltd. President Isao Hasebe 304-0005 1100-5, Hanya, Shimotsuma City, Ibaraki Prefecture	November 2008 July 2009	Sango Kanto Co., Ltd. established Capital: 95 million yen Operations begun at Sango Kanto Co., Ltd. Head office: Hino City, Tokyo Metropolis Plant: Iruma City, Saitama Prefecture (on the premises of SOHSHIN Co., Ltd.)
Established Capital Sales Main Production Items	November 2008 95 million yen 33,311 million yen (as of March 2019) Exhaust system parts	March 2010 May 2014	Production begun for "urea SCR", an emission control device for heavy-duty trucks Completed new plant in Shimotsuma City, Ibaraki Prefecture Head office: Relocated from Hino City, Tokyo to Shimotsuma City, Ibaraki Prefecture
Number of employees Main business partners	232 (as of March 2019) Hino Motors Co., Ltd. Isuzu Motors Ltd., Nissan Motor Co., Ltd. Subaru Corporation and others	May 2017 January 2018	Plant: Relocated from within SOHSHIN Co.,Ltd. to Shimotsuma City, Ibaraki Prefecture Plant within Hino Motor Co., Ltd. premises relocated to Sango Kanto head office plant. Urea line transferred from Sango Mie Co., Ltd.



Pipe bending

Mufflers

Welding / assembly



2nd Assembly Division 1st Manufacturing Departmer Group leader Isao Yoshizawa

Under a strong spirit of unity, our team is committed to

providing better products for our customers, with care taken for absolute safety and quality first an everyday custom. Because I am mainly in charge of assembly lines, I pay particular attention to quality. Our workplace has many women and foreign members, and with their excellent teamwork, this is a workplace



My job is to check quality by carrying out assembly leak testing (a test to detect air leaks). Although this means that there is some pressure to ensure that we do not inconvenience the customer, it is a rewarding job. In the future, together with my supervisors and colleagues, I hope to take on more and more new challenges beyond the scope of the current work

processes I have been given.



with high job satisfaction.



TOP Message

namen Taxatalle I



Isao Hasebe



mainly to Hino Motors and Isuzu Motors.

premises and Sango plants. In 2008, we

Originally, lines related to manufacturing were

consolidated them in Shimotsuma, and since then

scattered over areas that included customer

Contributing to a cleaner environment in the logistics sector with aftertreatment systems for heavy duty commercial vehicles

Tochigi

Prefecture

we have been promoting the creation of a

production system with better quality and

efficiency. In 2019, the "Kanto Sector" was

established within the Sango organization. In

anticipation of expanding sales in the future, we

have created a single team with clearly established

roles in sales, design, production engineering and

establishing the technology required for developing

manufacturing, as we take on the challenges of

commercial vehicles and take advantage of the

and producing ATS products for heavy duty

benefits of our Kanto region location.

Prefecture

Chiba

Sango Kanto

Co., Ltd.

Gunma Prefecture

Saitam





Inspection

2nd Assembly Division 1st Manufacturing De Ryousuke Uki



Inspection group, Inspection Division EG Department

Shodai Ochiai

My main job duties include new part measurements and 100% part inspections, as well as the

Shipping

study of component part dimensions using the CMM (coordinate measuring machine). This is my 6th year at Sango. At first, I struggled with reading drawings and the different dimension specs for each product, but in the end, I was able to learn my job by asking my manager whenever I didn't understand something. Our work may seem rather unglamorous when compared to the manufacturing department, but I have a strong sense of responsibility in our role as the last bastion for upholding quality.

Company Profile

Company name	Sango Co., Ltd.
Representative President Kozo Tsunekawa	
Head office	1-3-1 Mutsuno, Atsuta-ku, Nagoya-shi, Aichi-ken
Founded	June 1, 1928
Incorporated	June 1, 1950
Capitalization	608 million yen

Main Products	Mufflers, exhaust pipes, exhaust manifolds, vehicle body products, door impact beams, other automotive parts, cold forged products, cold finished steel bars, drawn pipes, carbon steel pipes for mechanical structures, machined / ground steel bar products
Customers	Toyota Motor Corporation, Hino Motors, Ltd., Daihatsu Motor Co., Ltd., Nissan Motor Co., Ltd., Mitsubishi Motors Corporation, Isuzu Motors, Ltd., Subaru Corporation, Mazda Motor Corporation, Toyota Industries Corporation, JTEKT Corporation, KYB Co., Ltd., Toyota Tsusho Corporation, Sumitomo Corporation, Asai Sangyo Co., Ltd., Metal One Corporation, Canox Corporation (random order)

MUFG Bank, Ltd., Sumitomo Mitsui Banking Corporation Main Banks







Toyota Technical Center

and companies

 \checkmark

Head Office (ECO 35)

Fukuta Plant

3



Yawatayama Plant



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*Results for Sango Co., Ltd. and consolidated subsidiaries for FY 2019.

Product overview







*1 Results for Sango Co., Ltd. and consolidated subsidiaries for FY 2019. *2 Results for Sango Co., Ltd. and Sango Corporation for FY 2019.

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Environment

Long-term environmental vision: Sango Environmental Challenge 2050

Towards a better global environment in 2050, Sango Group will strive for a balance in economic growth and preservation of the global environment. For the realization of a sustainable society, the Sango Group will work on 5 challenges aimed at creating 3 areas of value.





Implemen-	STEP 1 Implemented	STEP 2	STEP 3
	Training tour of	Check of management	Sharing improve
	group companies	status	examples ("Yoko
,			• •

Targets in 2022: The 1st Environmental Action Plan (Mid- to Long-Term Environmental Action Plan)

To achieve the long-term environmental vision, or "Sango Environmental Challenge 2050", specific mid- to long-term targets and action plans were summarized in the 1st Environmental Action Plan.

•	Activities for the San	ao Group 1st Enviror	mental Action Plan (mid.	- to long-term environment	al action nlan)
				- เบ เบเเน-เอเเเเ อเเงแบเเเเอเเเ	

Cate- gory		Five challenges for the "2050 En	vironmental Vision"	Actions for business risks and opportunities	Specific items to be implemented	Target value for FY 2022	Target value for FY 2019
Expansion and creati markets for products contribute to theenvirc	1 Challenge to minimize life cycle CO2 emissions Development of products and technologies that are environmentally-friendly throughout their life cycle, from material procurement to design, manufacturing, usage, disposal, and recycling.		Receive an external Environmental Promotion Award	Submit entry for the External Environmental Promotio Award			
		2 Challenge to minimize new vehicle CO2 emissions	Development and design of high value-added products that contribute to customers' environmental value	Product development that contributes to top-class fuel efficiency	 a. Product weight reduction b. Development and mass-production of new products that utilize exhaust heat 	Achieve 100% of each development goal Develop at least two new items	 Carry out weight savings for each project in each field has a mass-production project, monitor the fuel efficie percentage, and share the status on a regular basis List development items in each field and regular check progress / share status
on of that nment				Promotion of product development for next-generation vehicles	c. Development and mass-production of thermal management products for next-generation vehicles	Develop at least one new item	Move forward with an item chosen from (2) that can l developed for a mass production project
Reductior				(1) Promotion of development for low CO2 innovative production technologies	d. Reduction of processes for newly introduced equipment, enhancement of productivity, making products simpler, slimmer, and more compact, etc., and promotion of development for production technologies that can reduce CO ₂ emissions	Planned CO ₂ emissions reduction: -40% (compared to benchmark) Note: The target value is the reduction ratio compared to the manufacturing method in the benchmark year (around 2013)	Planned CO2 emissions reduction: -30% (compared to benchmark) * Initiatives for reduction items and their implementa in each product group (business): At least one item
				(2) Promotion of development for low waste production technologies	e. Promotion of development for production technologies that can reduce usage of cleaning fluid in newly introduced equipment, and reduce wastewater discharged from the cation coating line, etc.	Planned waste reduction: -30% (compared to benchmark) Note: The target value is the reduction ratio compared to the manufacturing method in the benchmark year (around 2013)	Planned waste reduction: -30% (compared to benchr
of environ					 f. Thorough elimination of waste when using energy Activities for eliminating air leaks Activities for turning off power to equipment when not in operation 	Reduce power consumption to less than 50% during lunch breaks (compared to peak power usage) (an average of 68% benchmark in 2018)	Power consumption during lunch breaks (compared to peak power usage): 63%
mental b		3 Challenge to minimize production activity emissions (CO ₂ , waste)	Reduction of emissions and waste from	Reduction of CO ₂ emissions in daily production activities (mass production lines and infrastructure)	 Identify energy consumption per process and product, and promotion of reduction activities 	Energy consumption per item: -5%	Set energy consumption in PKW
urdens through business activities			production activities through innovations in manufacturing methods		h. Introduction of energy-saving equipment with a high return on nvestment i. Renewal of old equipment	Always install a "Top Runner"* "Top Runner: Japanese standards for energy efficiency standards. Products meeting the standards are labelled "Top Runner".	Systematic equipment renewal plan for 26 equipmen
				Promotion of the use of renewable energy	J. Consider expanding areas for introduction of renewable energy, in accordance with economical efficiency and CO ₂ reduction effects	Introduce a centralized monitoring system	Introduce the system to Inabe plant
				Reduction of waste in daily production activities	k. Introduction of equipment for reducing oil-containing wastewater I. Introduction of waste treatment equipment for hydrochloric acid	Oil-containing wastewater: -20% Hydrochloric acid waste: -20% (compared to 2016)	Introduce equipment for reducing wastewater discha from the cation coating line Renew the hydrochloric acid waste handling equipme at Miyoshi plant
				Reduction of water consumption and waste in the production process	 Consideration for water use reduction activities, taking into account the water conditions in each country and region Effective utilization of water resources, use of stored rain water, and promotion of water conservation 	3% reduction in water consumption (compared to 2017)	Implement a survey of actual conditions
				Management and reduction of environmentally hazardous substances	n. Strengthening of the management of chemical substances contained in products	Do not use prohibited substances	Do not use prohibited substances
the		4 Challenge to reate a society in harmony with nature A create a society in harmony with realia co-ex	Preservation of biodiversity and protection of our natural environment to realize a society where humans and nature co-exist in harmony	 (1) Tree planting activities aimed at increasing the amount of CO₂ absorbed / sequestered (*) (target: 350,000 trees) (*) Amount of CO₂ absorbed / sequestered is a value 	 Support and guidance for the promotion of tree planting at each group company Cooperation regarding "creating native forest for life 2020" Consideration for tree planting in cooperation with the government 	Total number of trees planted: 323,000 Amount of CO2 absorbed / sequestered: 459 t (total)	Target for trees planted in FY 2019: 19,951 trees Target for trees planted in total: 286,931 Total amount of CO2 absorbed / sequestered: 308 t
Preserv natural (calculated by the Company's calculation formula, which corresponds to CO ₂ absorbed by planting trees	r. Growing seedlings for areas affected by the Great East Japan Earthquake (Will end in May 2021)	Total number of shipments: 22,000 seedlings Amount of CO ₂ absorbed / sequestered: 23.8 t (total)	Scheduled number of shipments in May: 1,000 see Amount of CO2 absorbed / sequestered: 0.21 t
ation of environm				(2) Conservation of the natural environment through the development of a biotope within the company premises	 Promotion of conservation of the natural environment through the development of the ECO35 biotope and rice fields Promotion of conservation of the natural environment through the development of Yawatayama's biotopes 	Fully promote the maintenance and management plans	Fully promote the maintenance and management pla
lent				(3) Environmental conservation activities in cooperation with outside parties	u. Promotion of conservation of the natural environment through participation in activities related to All Toyota Harmony with Nature Working Group Conservation of the biotope ecosystem at Yawatayama Plant for "a plant that coexists with nature in harmony"	Fully promote the plans for All Toyota Harmony with Nature Working Group (scheduled for 2021)	Fully promote the plans for All Toyota Harmony with Nature Working Group (scheduled for 2021)
Reduction of environr through business		5 Challenge to establish an environmental management system	nge to establish ironmental gement system ironmental gement system	Compliance with the environmental laws of different countries and regions and implementation of environmental accident prevention activities	v. Periodic check on the status of compliance with environmental laws w. Periodic check on the status of preparations for emergencies x. Development of people who have environmental awareness	No abnormality complaints	No abnormality complaints
	5			Sango Group periodic audit of environmental activities	y. Implementation of a factual survey regarding the status of environmental activities, checking on the effects, and sharing information for improvement across the company (check on the activities throughout the entire corporate group's plants, both in Japan and overseas)	Visit each group company or plant once a year Hold global environmental meetings	Create periodic audit check sheets for group compar (or plants)
				Promotion of environmental activities in collaboration with business partners	 z. Promotion of green procurement to all suppliers Requests for establishment and operation of an environmental management system Management and reduction of environmentally hazardous substances contained in materials and parts 	Hold a briefing for suppliers once a year	Hold a briefing for suppliers in March
hental burden activities				Proactive disclosure of environmental information and enhancement of communication	 aa. Further enhancement of the provision of environmental-related information ▶ Continuous issuance of the SANGO Group Report ▶ Update of the homepage bb. Communication with the government office and local residents 	Issue the group report and post it on the homepage once a year Hold events regarding harmony with nature for the government and civic groups	Issue the group report and post it on the homepage once a year Hold the events three times a year
dens					cc. Improvement of external evaluations and corporate image by actively publicizing information	CDP Supply Chain Program: Acquire "Rank B" for climate change and water	Acquire "Rank C" for climate change and water

\bigcirc : Target achieved \triangle : Still so	me issues, but target expected to be achieved in 2022 $ imes$: Not	achieved
et value for FY 2019	Results for FY 2019	Progress level
xternal Environmental Promotion	Made a presentation at the final selection for the Supplier Awar	0
vings for each project in each field which ion project, monitor the fuel efficiency are the status on a regular basis tems in each field and regularly hare status	 Summarized the amounts of CO₂ reduction in September and February, and confirmed good progress Checked item progress in June, September, December and February. Each item is on track at this point 	0
item chosen from (2) that can be production project	(2) Development is under way for a heat exchange system for next-generation exhaust heat utilization and electric vehicles, and it is making good progress	0
ns reduction: -30% ark) on items and their implementation (business): At least one item	-36% (average value of target projects for each item) Main reduction items: Making equipment simpler, slimmer and more compact	0
ion: -30% (compared to benchmark)	Improvement to washing equipment for cross members (machine change) \rightarrow -75% Reduced wastewater discharged from the cation coating line (introduced pressure flotation processing equipment) \rightarrow -99%	0
uring lunch breaks wer usage): 63%	Power consumption during lunch breaks (compared to peak power usage): average of 62% for April to January	0
on in PKW	Identified energy consumption per field	0
t renewal plan for 26 equipment units	Implemented update for 25 units. Changed air conditioning over to large fans	\bigtriangleup
to Inabe plant	Postponed this year due to management strategy	\bigtriangleup
or reducing wastewater discharged g line ic acid waste handling equipment	Reduced to 1/10th (20 \rightarrow 2 m ³ per month) Updated in October	0
f actual conditions	Received actual data monthly	0
substances	Did not use prohibited substances	0
ted in FY 2019: 19,951 trees ted in total: 286,931 absorbed / sequestered: 308 t	Actual result for trees planted in FY 2019: 21,814 Actual result for total number of trees planted: 288,794 Total amount of CO2 absorbed / sequestered: 309 t	0
of shipments in May: 1,000 seedlings rbed / sequestered: 0.21 t	Actual result: 1,354 seedlings Amount of CO2 absorbed / sequestered: 0.43 t	0
ntenance and management plans	Promoted as planned	0
ns for All Toyota Harmony with	Started the development of a biotope at STA Scheduled to be completed in September 2020	0
aints	There was 1 abnormality complaint (It was a minor abnormality complaint (within regulation values), and measures were taken)	×
check sheets for group companies	Completed periodic audit check sheets for group companies (or plants)	0
pliers in March	Held in May	0
rt and post it on the homepage e times a year	 Issued in July and posted on the homepage Held report sessions at the Biotope Association in June, for the Aichi Prefecture student project in February, and for the City of Nagoya Board of Education in February 	0
climate change and water	Acquired "Rank B" for climate change and "Rank C" for water	0

ome issues, but target expected to be achieved in 2022 \times Not achieved

Environment

Challenge to minimize new vehicle / life cycle CO2 emissions [Environmental Product Development Committee]

In order to reduce CO₂ emissions through such measures as reducing the weight of next-generation products and improving fuel efficiency in vehicles through newly developed items, we are moving forward with the development in each product group, including exhaust systems, exhaust manifolds and body components. Although our focus is on automotive part weight reduction, we are also applying our knowledge in thermoelectric generation for automotive exhaust systems to utilize exhaust heat from the annealing furnace at Miyoshi Plant to generate thermoelectric power. Data obtained from experiments concerning durability and the amount of power generated, etc., will be used to solve future problems and contribute to the minimization of CO2 emissions.



Battery clamp (used in the Toyota Prius and many other vehicle types

副業長広徳

Approach for reduction of wastewater discharged from the cation coating line [Environment Innovative Production Methods Committee

Sango carries out an in-house cation coating process for the battery clamps we produce. As the washing process uses a large amount of water, we were sending at least 100 water drums a month to an industrial waste treatment company, which had a negative impact on the environment.

To improve this situation, new pressure flotation water treatment equipment was introduced in FY2019. With this, we commenced a new treatment method that separates wastewater into water and oil/sludge. As a result, the

20 to 30 tons of waste (wastewater) which was generated on a monthly basis was dramatically reduced to only a small amount of sludge. At the same time, the treated water fell within environmental standards, and it is now possible to discharge it into rivers. This has led to significant improvements in environmental impact.





Reduction of CO2 emissions and waste volume in production activities [Environmental Impact Reduction Committee]

Because the production process uses many resources, including electricity, water, and oil, each plant has taken up a number of activities to reduce CO2 and waste generated by resource consumption.

Switching power off

All equipment power is switched off during non-operating hours, such as during lunch breaks, to reduce the CO₂ emitted by power generation. Reducing compressor air leaks

- In production facilities, compressed high-pressure air is used for clamping and handling parts. Air may leak at the air compressor hose joints, and if ignored, the compressor will be constantly operating. In order to reduce operating hours, power consumption, and CO₂ emissions, intensive inspections for leaks are conducted.
- Reducing the amount of wastewater through waste fluid treatment As waste fluid discharged by production equipment contains a large amount of water, removing the water content from this fluid reduces the waste fluid from the equipment.



Introduction of power usage visualization systems

Environmental conservation initiatives



Employees from GSC (closed uranium mine site, Xinfeng, Shaoguan City, Guangdong

Removal of invasive alien species (Coreopsis lanceolata)

In May 2019, the 4th Coreopsis lanceolate (or "tickseed") removal campaigr was held at the Sugo River embankment located north of Miyoshi Plant. This time, 231 people worked together to eliminate 1,070 kg of the Coreopsis lanceolata. Because its aggressive growth drives native Japanese species out, the flower is designated as an invasive alien species. To prevent the further spread of alien species into Japan, we will promote activities in cooperation with local communities and government.

* FY2020 event canceled due to the novel coronavirus

Presentation made at the Aichi and Nagoya Biodiversity EXPO

In January 2020, a kick-off event for the Olympic Torch Relay, "Connecting the 'United Nations Decade on Biodiversity' to the Future -The Aichi / Nagoya Biodiversity EXPO -" was held at the Nagova Congress Center. The Ministry of the Environment and the Japan Committee for the UNDB collaborated with Aichi Prefecture and Nagoya City on the EXPO, where under the title, "Urban Oasis ECO 35", Sango made a presentation about the ECO 35 concept of reviving and restoring a green environment on an old factory site and the actions taken to accomplish this. Sango will continue to work toward the realization of a society that coexists with nature in harmony.



People from the Donguri-no-kai in the Miyoshi-Kami Admi



Presentation made by Keiko Ikegami, Public Relations G Corporate Planning Department

Society

Workplace stimulation through WAY² activities

In Sango, we promote QC circle activities that are referred to as "Way² activities." The "WAY" in "WAY² activities" is a combination of Japanese words that mean "circle" (the "WA") and "Let's do it!" ("Yaromai" = the "Y"). So, "WAY² activities" means "Let's enjoy doing QC circle activities!" We aim to stimulate workplaces (demonstrate workplace skills) by forming circles at each workplace, having front line workers play leading roles, and bringing minds together to solve workplace issues and problems.





Prototype Div

Grand Line Circle



[Technical] Toyohashi Plant **Uneven Circle**



Inabe Plant Spoma Circle

Actively taking on the challenge of participating in external presentations

Fukuta Plant

YYY Circle

Company-wide presentations are held to provide an opportunity to report on the results of daily activities and share information. Each circle belongs to one of the above blocks, and circles selected from each block's presentation participate in the company-wide presentation event. A circle achieving excellent results for its presentation may also participate in an external presentation event as a representative of Sango. In FY2019, the four circles mentioned above took on such a challenge. At the 6141st QC Circle Mini Presentation, the Spoma circle from the Inabe Plant made a presentation on "Reduction activities for handling heavy objects related to guality checks." They received an "Impressive Presentation Award", which is given to the most outstanding Circles of the event.

By stimulating workplaces through WAY² activities, we will achieve a cheerful and rewarding work climate.

Quality awards from our customers

Out of 169 companies, Sango was one of the 25 companies recognized by Toyota Motor Corporation with a QC Excellence Award for our active efforts in quality control activities. In addition, Toyota Motor East Japan recognized Sango with a Certificate of Appreciation for our active efforts in quality control to achieve fiscal year targets. From Nissan Motor, we received the "Global Quality Award", which is awarded to only one company worldwide.

We will continue to improve our quality so that we can deliver good products to our customers





From Toyota Motor Corporation

From Toyota Motor East Japan, Inc

From Nissan Motor Co., Ltd.

Work-style reforms

Developing worker-friendly job sites

In aiming to create a worker-friendly job site, we need to be able to solve daily problems that occur, create a workplace where employees can work with peace of mind, and make it so workers can demonstrate their skills more effectively. The following explains current and future initiatives to this end.

Balancing work and childcare

With the expansion of the maternity leave program and new establishment of a return-to-work system, Sango is enhancing its systems for those with children. We will continue to promote initiatives to create a workplace where employees can work from any location.

Enhancement of discussions at the workplace

Currently, round-table meetings are held by both labor and management at workplaces. Through these meetings, we will promote initiatives to solve problems and issues concerning compliance, etc.

Establishment of the re-hiring system

Since FY2020, we have revised our re-hiring system—now M-level employees (executive, management, and professional roles) and managers who will be re-hired can discuss post-retirement jobs at an earlier stage. With regard to suitable workplaces, we will also introduce a system to share information with all departments in the company about employees who will reach the retirement age. By sharing this information, we can offer a broad range of work opportunities.



In addition, we have programs such as the "long-term nursing care leave program" for employees who provide long-term care for family members. Through these programs, we are creating a system so that employees can work at Sango for as long as they want to, in a way that suits their home circumstances.

Cross-discipline gathering of employees to discuss and implement ideas (renovation of the 2nd Technical Center)

At the end of March, the renovation of the 4th and 5th floors of the 2nd Tech Center (R building) at Sango's Toyota Technical Center was completed for the purpose of developing new products, enhancing R&D functions, and a major transformation to new work styles, which was set forth in "New approaches" and "Business management innovation" in the Long-term 2030 Outline. Through many surveys and workshops, six project members who were selected from relevant departments set up five areas: the work area, concentration area, CAD/CAE area, library, and break (i.e. "re-charging") area. With a layout that utilizes laptops and a free address seating system, we created an environment that crosses the boundaries of departments, so that everyone can think together and carry out tasks. The integration of the Advanced Technology Division, Body Components and Precision Steel / Chassis fields, the Performance Testing Department, and the Stamping Division in this attractive workplace will promote work style reforms that lead to a speedier development process.



"Collaborative area" where employees can enter freely from five areas

Society

Multi-level training programs.....

Trainee program

The trainee program is an educational system that sends young employees in their twenties to overseas affiliates for six months to one year, where they receive language and practical training. This program aims to develop human resources at an early stage in their careers, by teaching language skills, and providing a global vision and experience. Even after returning to Japan, employees who took part in the program have been playing active roles on a global stage by taking advantage of the networks and experience they cultivated. In FY2019, seven employees participated in this program, and five of them are carrying out training in ASI (USA).



FY2019 ASI trainees [Back row] Tomokazu Kabeya, Yuta Kosato, and Yusuke Okai [Front row] Mayo Nakano and Ryo Miyajima



Production Planning Division, Yuta Kosato ear center)

At first, I struggled with the difference in work processes, living environment,

and the language barrier. However, I gradually built up relationships with ASI members, and now I enjoy having conversations with them. Through this training, my desire for an overseas assignment has become even stronger. Using the experience I cultivated for my future work, I would like to make every effort to become an employee who can play an active role around the world.



In this trainee program, I am learning about work processes in ASI and

Steel, Chassis and Body Sales

Mayo Nakano

receiving training on a daily basis. However, there were many things that were different from Sango, and at first I was left a little a bit confused. In the future, by communicating more actively with ASI members, understanding why there are differences, and sharing each other's strengths, I would like to improve ASI's efficiency and strengthen the ties between Sango and ASI.

Hands-on training for group processes

"Hands-on training for group processes" is an external training camp that aims to re-recognize the importance of teamwork and communication, and foster an awareness of a united front through a sense of community. This fiscal year, an event was held at the Toyota Shirakawago Nature School, and 21 young employees in their 20s to 30s who were recommended by those in company-wide management

positions participated. Many participants expressed that they would like to apply the insights they gained from the training to their workplaces.







Tomoko Kondo, Body Production **Engineering Department**

To make things progress more smoothly, I would like to communicate with people in my department and other departments more often





Yusuke Fujishiro, Production Planning Division

By working together with young people with an awareness of a united front and making use of the connections I built with superiors in this training, I would like to improve the working level standard.

Aiming to obtain certification as a corporation with outstanding health management

In order to implement health management, we have begun activities to obtain the status of "Certified Health & Productivity Management Outstanding Organizations Recognition Program (Ministry of Economy, Trade and Industry)." With regard to our representative initiatives, we announced a "Health management declaration", which included "Physical and mental health is a foundation for all activities", written by President Tsunekawa in February. This declaration aims to create a vigorous company with the promotion of all employees' physical and mental health, on a company-wide scale. In order to continue taking on the challenge of "creating Sango products that make worldwide contributions," preparing a healthy mind and body is fundamental. For better health of each employee, we will promote company-wide participation in walking activities within the premises and the use of training gyms to enhance immunity and create resilience. We will also aim to create a more communicative work environment through interactive communication.

Group safety and health - Working-level conference

Every year, members of the Safety Division from both domestic and overseas affiliates gather at Sango to conduct report and study sessions, and case studies at a Sango Plant. This fiscal year, we held a study session on risk assessments to share potential risks and examine countermeasures. The members took the content they learned back to their companies and rolled them out to their own workplaces.



Scene of a meeting being hel

















Society

Global purchasing meeting – 1st Purchasing Strategy Meeting in Thailand

In September, purchasing executives from the Sango Head Office, YSP, and STA gathered at YSP in Thailand to hold the 1st Purchasing Strategy Meeting in Thailand. One aim of the meeting was to formulate a policy for ordering materials, parts and indirect materials for small vehicles produced in Thailand. However, the ultimate goal was to ensure optimal procurement by sharing and disseminating accurate information with each other. We will continue to strengthen the ties within the group and work on building a global supply base.





Wasin S. Wasin, Director of the Purchasing Department, YSP in Thailand

I felt convinced that our global meeting activities will change YSP's purchasing system to make it more efficient. It is very important that YSP roll out the same procurement policy as Sango in order to achieve the same target as Sango. I believe this will also contribute to cost reductions.

Promotion of green purchasing

In cooperation with our suppliers, we have been striving to better preserve the environment through procurement of parts and materials that are more environmentally-friendly. In 2018, we released the "Sango Group Green Purchasing Guidelines" and are promoting activities aimed at socially sustainable development, while working with our suppliers for a better harmony with the environment.

- 1. Establishment of an environmental management system
- 2. Reduction of greenhouse gases (GHGs) 3. Reduction of environmental impact on water
- 4. Promotion of resource recycling
- 5. Control of chemical substances
- iei to 6. Creation of a society in harmony with nature
 - * "5. Control of chemical substances" is mandatory, and is the most important item.

Sharing information and building partnership through supplier meetings

We hold a supplier meeting every month where we deepen our partnerships with our suppliers by sharing information on topics such as guality, safety, and production trends. We also organize study tours and seminars on a regular basis so we can learn with our suppliers. The things we learn together are introduced into suppliers' companies as well, and they use these opportunities to gain knowledge to help solve their respective problems.





Suppliers participating in the failure analysis training

Tree planting activity at Millennium Hope Hills

We are cooperating with others to create the "Forest Seawall" in Iwanuma City, Miyagi Prefecture—an area that was affected by the Great East Japan Earthquake. The seawall, which is a forest, will dampen the power of Tsunamis and help prevent people and objects from getting swept away. In May, 1,300 people from all over the country participated in the event and planted 10,000 seedlings. Sango also sent 1,300 seedlings to this tree planting event, and the total number of the seedlings reached 21,500. Five members in charge of raising the seedlings at each Sango plant participated. We hope that a towering forest grows and protects the lives of people 1000 years into the future.

Participating as volunteers for the Tour of Japan

Every year, about 10 volunteers from Inabe Plant participate in the Tour of Japan-the largest international bicycle road race in Japan, which is held in May. Of the 8 stages that are held around Japan, the 3rd stage is held in Inabe City. 16 teams from Japan and overseas compete for the best time on an open circuit course that passes in front of Komeno Plant. Our volunteers were in charge of traffic restrictions along the course. We contribute to the local community by

ensuring the safety of spectators and athletes participating in the world-famous road race.



Volunteer activities at an elementary school (YSP/STA Thailand)

In Thailand, companies actively engage in CSR activities. YSP/STA has also participated in Children's day events, mangrove planting, and conducting repairs for elementary schools. The photo on the right was taken when employees and families participated in a volunteer activity at "Klong Krashangtoey School", which is located near the company. Following a speech by President Kondo from YSP, and by the Principal, the elementary school students welcomed us with a lovely Thai dance. After that, each employee carried out repairs for damaged school facilities with the children, built play equipment, painted, cleaned toilets, planted trees, and cut children's hair, etc. Participants enjoyed working with the children even though the work was unfamiliar to them. YSP/STA will continue to promote activities that contribute to the local community.



Support for the Special Olympics in 2019

The Special Olympics Japan - Summer District Games, which is for people with mental and physical disabilities, was held at the Toyota Sports Center in October. Members of the Sango table tennis and basketball ball club participated as operating staff to support setting up the venue and to referee games. This activity has been held since 2018, and through the support for sports, we are cooperating to create a more livable society for people with disabilities.



Volunteers from the table tennis club



Volunteers from the basketball club









Planting tree

Governance

Corporate Governance System

Sango has established the corporate governance system shown below. This system enables us to make transparent and fair decisions quickly, taking into consideration all of our stakeholders, including our employees, shareholders, customers, suppliers, and local communities.



The highest decision-making body in the Sango Group is the Board of Directors, which consists of six directors, including one external director, and it decides on critical issues concerned with management and statutory matters. At the same time, to ensure fairness and independence, our auditors, including external auditors, supervise management and audit how directors are executing their duties.

Internal control / Governance Committee

In accordance with the corporate governance system to make transparent and fair decisions in a quick and decisive manner, and with a basic approach for internal control systems to ensure the properness of operations within organizations, our Internal Control / Governance Committee will promote approaches for compliance and risk management.



Compliance

Compliance Promotion Month

The Sango Group established a "Compliance Promotion Month" in FY2019 to clearly state its stance on best compliance practices and to enhance the awareness of each employee. In implementing various initiatives including the President's compliance declaration, comprehension test regarding compliance, KYT (risk prediction training) activities, and distribution of compliance cards that provide contacts for the "Sango☆Helpline" (internal reporting and consultation contact), etc., the company and all employees are actively strengthening our compliance system together.



Workshops for preventing power harassment

Prior to the implementation of the power harassment prevention law (the Labor Policy General Promotion Act) in June 2020, workshops for preventing power harassment were held from December to February for executive, management, core and professional positions. Legal advisors acted as lecturers and provided information such as the definition of power harassment, specific examples, criteria, responsibility of companies and the perpetrators, risks at companies with easy-to-understand cases, and questions and answers. We also adopted a fresh perception and no longer accept such past sayings as "the more strictly you instruct, the more your subordinates will grow". We will roll out these workshops for all domestic workplaces, targeting GLs, asst. managers, supervisors, and team leaders.

Risk assessment and measures

In order to avoid or minimize various risks in our corporate activities, the Internal Control / Governance Committee, consisting of executives and auditors, mainly conducts risk management. The Committee extracts possible risks from all divisions in the company and prioritizes risks company-wide based on the results of the risk assessment. For the high priority risks, each major division formulates and promotes countermeasures, and the Internal Control / Governance Committee monitors the progress, and as necessary, provides instructions to each major division to continuously improve.





Workshop for preventing power harassment

Company-wide priority risk for FY2019

General category	Intermediate category
Compliance	Violations of the Antimonopoly Act, labor laws, and the Subcontract Act, etc.
Information	Information leakage, etc.
Labor affairs	Occurrence of harassment, lack of personnel, insufficient human resource development, etc.
Disasters and accidents	Natural disasters, industrial accidents, etc.
Production and distribution	Defective maintenance of equipment, etc.