



# ESG Databook 2019



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This publication is the compiled PDF version of Komatsu's webpage "ESG Databook", as of July 18, 2019.

002 Formulating CSR Themes (Materiality)

## ■ Management of Environmental and Social Initiatives

008 Comparison with Global Principles  
010 Dialogue with Our Stakeholders  
012 Organization to Promote CSR  
013 Major Achievements  
020 External Evaluations

## ■ Theme 1 : Enhancing Quality of Life

023 Product Safety - Increasing Safety by Innovation -  
026 Quality and Reliability  
- Responsible Commitment to Customers -  
033 Occupational Safety and Health  
041 Pursuing Environmental Management  
049 Relationship between Business Activities and the Environment  
-Product Life Cycle and Mitigating Climate Change-  
060 Relationship between Business Activities and the Environment  
-Promoting Recycling-

## ■ Theme 2 : Developing People

068 Personnel Policy and Performance Appraisal System  
074 Diversity Initiatives  
079 Enhancing Work-Life Balance  
083 The KOMATSU Way  
086 Employee Training Structure  
088 Strengthening Our "Gemba" Capability  
091 Brand Management Initiatives

## ■ Theme 3 : Growing with Society

095 Communication with Stakeholders  
099 Compliance  
103 Risk Management  
107 CSR Initiatives in the Supply Chain:  
Support for CSR Initiatives of Business Partners  
120 CSR Procurement Guidelines  
122 Environmental Risk Management  
131 Environmental Activities in the Product Life Cycle  
(Upper and Lower Stage)  
134 Biodiversity

## ■ Social Contribution Activities

138 Accomplishments and Approaches for  
Social Contribution Activities  
140 Komatsu's Initiatives for the Social Issues  
142 Developing People Needed by the Community  
145 Disaster Relief  
147 Clearing Anti-Personnel Landmines and  
Community Development Support  
153 Promoting Sports—The Komatsu Women's Judo Club

## ■ Environmental Performance Data

158 Environmental Education  
161 Environmental Accounting  
164 Site Data  
165 Scope of Environmental Data  
169 Independent Practitioner's Assurance on  
Environmental Report 2018  
171 Amount of CO<sub>2</sub> Emissions by Scope3  
172 GRI STANDARDS INDEX

### Editorial Policy

These reports principally cover data for the period from April 2018 to the end of March 2019, with some non-periodic information on continuing efforts.

About the report which doesn't cover all our domestic and overseas consolidated Group companies, we stated the scope of report in each page.

The date of the previous report is July 2018. We publish these reports every July, and the next issue will be published in July 2020.

Please use this form to send us any questions regarding our reports.

The reports contain Standard Disclosures from the GRI Sustainability Reporting Standards. You can see a list of the Standard Disclosures and their location in our report here.

Komatsu has received an independent practitioner's assurance on important quantitative data in environmental reporting, which can be viewed here.

## Formulating CSR Themes (Materiality)

Komatsu formulated its CSR themes in 2010, placing CSR activities as the ones to respond to social needs through core business, upon much discussion on defining initiatives that would both be of value to society and to Komatsu.

Also, in the Mid-Term Management Plan announced in April 2019, we touch upon the growth strategy in our core business in relation with our CSR themes, and are striving for sustainable growth through a positive cycle of improving earnings and solving ESG issues. In addition, even in social contribution activities that do not aim at direct profitability, we strive to contribute to society in a way that draws on the strengths of our core business through initiatives aligned with our CSR themes.

### Komatsu's procedure to identify CSR material issues

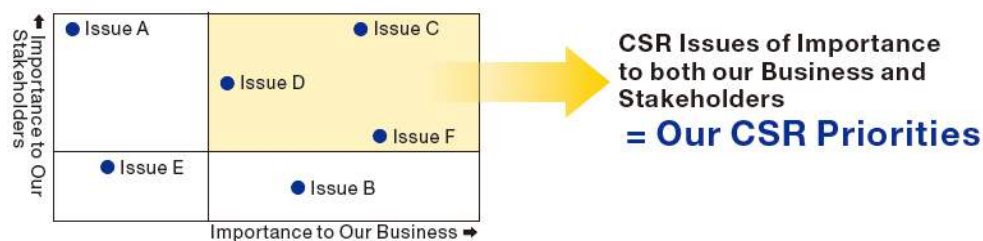
In 2010, with the support of Business for Social Responsibility (BSR), a nonprofit organization, Komatsu undertook a materiality assessment to accomplish the following objectives:

1. Identify a set of CSR issues and prioritize these issues by their relevance to our business and importance to our stakeholders
2. Define a set of global CSR themes and activities

From an extensive list of CSR issues, we selected those relevant to Komatsu as a construction/mining and industrial equipment manufacturer. We then evaluated CSR issues based on their importance to our business. To understand the relevance of CSR issues to our business, we interviewed senior executives across our company, including the heads of regions outside Japan. These interviews helped us in understanding the degree to which CSR issues impact our business priorities and operations. We then evaluated CSR issues based on their importance to our stakeholders. To understand the relevance of CSR issues to our stakeholders, we reviewed external reports, viewpoints, and public statements published by governments and policy makers, issue experts and advocates, media, suppliers, and customers. We also took into consideration the BSR's view of stakeholder importance.

### Evaluating CSR issues

We evaluated CSR issues based on the degree of importance to our business shown on the horizontal axis, and the degree of importance to our stakeholders shown on the vertical axis.



The CSR issues of more importance to both businesses and stakeholders are placed in the top right quadrant. We narrowed our focus to sixteen material issues across six categories. By focusing on these material issues that have the most impact on our business and stakeholders, we believe that we are in a strong position to leverage our core strengths as an equipment manufacturer, and create lasting social impact going forward.



## Komatsu's CSR Priorities

Products, Services, and Customers	<ul style="list-style-type: none"> <li>Products that enhance safety</li> <li>Responsible marketing and customer support</li> </ul>
Environment	<ul style="list-style-type: none"> <li>Environmentally-friendly products</li> <li>Environmental efficiency (facilities, such as plants, and job sites)</li> <li>Remanufacturing</li> </ul>
Employees	<ul style="list-style-type: none"> <li>Human resource development</li> <li>Safety and health</li> <li>Respecting employees</li> </ul>
Human Rights	<ul style="list-style-type: none"> <li>Respecting human rights</li> <li>Equal employment</li> </ul>
Ethics and Governance	<ul style="list-style-type: none"> <li>Cooperation with stakeholders</li> <li>Corporate governance and compliance</li> <li>Collaboration with business partners to comply with social regulation</li> </ul>
Local Community	<ul style="list-style-type: none"> <li>Development of local communities</li> <li>Disaster relief</li> <li>Improving local residents' quality of life</li> </ul>

## Formulating CSR Themes and Key Business Activities

We identified three CSR Themes via a two-pronged approach, basing them on our material issues and through internal/external dialogues within the company and with BSR.

### Komatsu's CSR Themes

- Enhancing Quality of Life-Providing products required by society-
- Developing People
- Growing with Society

In order to achieve our goals for each of the three areas, we have determined priority activities that align with the mid-term management plan as “**activities through our core businesses**”. In addition to its main business, Komatsu believes it is the responsibility of a business to engage in “**social contribution activities**” in the local community where business is conducted. Komatsu is engaging in the following social contributory activities that make the most of the know-how developed in our main business.



CSR Themes	Key Business Activities	
	Activities through the core business	Social Contribution Activities
<b>Enhancing Quality of Life</b> -Providing products required by society -	<ul style="list-style-type: none"> <li>Providing products, services and solutions with high-quality and high-efficiency that place importance on safety and reduction of environmental impact in response to climate change</li> </ul>	<ul style="list-style-type: none"> <li>Promoting environmental efficiency &amp; safety through initiatives not directly related to the business</li> <li>Providing products, services, know-how required by society for free of charge</li> </ul>
<b>Developing People</b>	<ul style="list-style-type: none"> <li>Development of a diverse workforce</li> <li>Strengthening and developing diverse and global-scope talent to help achieve sustainable workplaces</li> </ul>	<ul style="list-style-type: none"> <li>Support the development of people in local communities</li> <li>Development of next generation</li> </ul>
<b>Growing with Society</b>	<ul style="list-style-type: none"> <li>Offering solutions for social issues through collaboration with stakeholders</li> <li>Responsible corporate behavior</li> </ul>	<ul style="list-style-type: none"> <li>Disaster Relief</li> <li>Social Contribution utilizing core strength and know-how</li> </ul>

## Komatsu's CSR and SDGs (Sustainable Development Goals)

In light of the emphasis on corporate efforts towards ESG (Environmental, Social, Governance), Komatsu announced the Mid-range Management Plan in April 2016 which stated that Komatsu places emphasis on ESG. In incorporating ESG into the Mid-range Management Plan, we re-examine the relationship between Komatsu's business and CSR initiatives, reveal the direction we are currently taking, and how Komatsu's CSR activities link to the SDGs (Sustainable Development Goals) adopted by the United Nations as a common goal aimed at by the international community.

### [SDGs \(Sustainable Development Goals\)](#)

The SDGs, officially known as the 2030 Agenda for Sustainable Development is a set of 17 goals with 169 targets covering a broad range of sustainable development issues, which was adopted at the United Nations General Assembly in September, 2015.

## SDG Goals and Selection Process

Based on the discussions, we did a thorough analysis to compare the 17 SDG goals and their accompanying 169 SDG targets with our CSR activities and themes. We evaluated 1) whether there is a relation, and 2) the depth of the relation.

[Table 1: Komatsu's CSR priority areas / Priority activities and SDG goals]

Inter-connections: High Med Low

Figures: SDGs targets

SDGs (Sustainable Development Goals)

Komatsu's CSR key themes

	No Poverty	Zero hunger	Good health & well-being	Quality education	Gender equality	Clean water & sanitation	Affordable & clean energy	Decent work & economic growth	Industry, innovation & infrastructure	Reduced inequality	Sustainable cities & communities	Responsible consumption & production	Climate action	Life below water	Life on land	Peace & justice	Partnership for the goals
<b>Enhancing Quality of Life</b>																	
Providing products required by society																	
Provide products and services that contribute to infrastructure development and improving quality of life	1.5						7.1 7.b	8.4	9.1	10.1	11.1, 11.2, 11.a, 11.c			14.5	15.3		
Improve production/safety as well as promote efficiency and energy conservation through innovation	①				5.b		7.a 7.3	8.2 8.4	9.2 9.5	10.2	11.3		13.1				17.6 17.7
Improve environmental efficiency at operation sites and plants		3.9				6.3 6.4	7.2	8.4	9.4		11.6	12.4	13.1		15.1, 15.2, 15.4, 15.6		17.7, 17.14, 17.15
Reduce environmental load throughout product life cycle		3.9				6.3 6.4	7.a	8.4	9.4		11.6 11.c	12.4 12.5	13.1		15.4 15.5		
Enhance safety for society, customers, employees and business partners								8.8	9.5		11.2, 11.3, 11.b						
<b>Developing People</b>																	
Enhance our employees and suppliers through the KOMATSU Way				4.4				8.5 8.8									17.16
Enhance our employees and distributors through brand management								8.5 9.5									17.6
Local HR education in the area of construction equipment and manufacturing	1.a			4.3 4.4	5.1			8.6 8.8	9.5	10.2 10.b	11.a						17.9
Respect for employees (Diversity)			3.d	4.4	5.1, 5.5, 5.c			8.5		10.2							
Develop the next generation				4.1				8.5		10.2			13.3				
<b>Growing with Society</b>																	
Engage in dialogue with stakeholders	1.a		3.d		5.5 5.b		7.a	8.7 8.5	9.1 9.5		11.b		13.b			16.7	17.6 17.17
Strengthen our corporate governance and compliance					5.1 5.5	6.3		8.8 9.4	10.2 10.3		11.b	12.6	13.3		15.1	16.3 16.5	17.14
Promote compliance with environmental, labor and social norms with the group among business partners					5.1		7.a	8.5 8.7, 8.8	9.4	10.2	11.6		13.3		15.1	16.3 16.5, 16.b	17.16
Social contribution utilizing core business (support for local communities, clearing land mines and cultivation of safe villages)	1.a	2.3	3.9	4.1 4.3, 4.4		6.6		8.5	9.a	10.2 10.b	11.6 11.7			15.2	16.7	17.16	
Disaster relief	1.5		3.9								11.5 11.b		13.1	14.5	16.7	17.14	

For example, one of our CSR activities is providing products and services that contribute to infrastructure development and improve the quality of life. For each SDG goal and target, we compared our activity: For example, for SDG Goal #1, we compared as follows;

<Example 1> SDG Goal #1 (No poverty)

- SDG Target 1.1 (By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day)  
In this instance, we did not see a direct relation.
- SDG Target 1.2 (By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions)  
In this instance, we did not see a direct relation.
- SDG Target 1.5 (By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters), we believe there is an indirect relation, and thus colored the cell light blue to indicate the connection. (Refer to ① in the Table 1)  
In the same manner, we compared as follows;

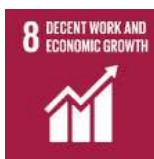
<Example 2> SDG Goal #9 (Industry Innovation and Infrastructure)

- SDG Target 9.1 (develop quality, reliable, sustainable and resilient infrastructure, including regional and trans- border infrastructure to support economic development and human well-being).  
We colored the cell rich blue because there is a strong relation with our key theme. (Refer to ② in the Table 1)

The same process was followed for all SDG targets and all of Komatsu's CSR activities. On Table 1, the number in the cell represents the SDG target(s) where there is a relation, and the color (dark/medium/light) indicates the depth of the relation (direct or indirect).

According to the team's analysis, five SDG goals have a strong relationship with Komatsu's three CSR Themes. By focusing on these five SDG goals, Komatsu contribute to all the SDG goals comprehensively since it is proved that each SDG goal is mutually intertwined.

**The five SDG goals are**



#8 Decent work and economic growth



#9 Innovation and Infrastructure



#11 Sustainable Cities and Communities



#13 Climate action



#17 Partnerships for the goals

Table 2 explains how Komatsu's business and CSR activities contribute to the five SDG goals and targets that have the strongest ties to Komatsu's business.

**[Table 2: Co-relation between SDG Goals and Komatsu Business/CSR]**

SDG Goals	Komatsu Business/CSR	SDG Targets (which have strong ties with Komatsu business)
<p><b>Decent work &amp; economic growth</b></p>	<p>We strive for increased employment and job creation in regions where we operate by utilizing our human resource and skills development know-how cultivated in our business.</p> <p>We place top priority in providing a safe and rewarding workplace for our employees and our customers' employees worldwide.</p>	<ul style="list-style-type: none"> <li>Achieve full and productive employment and decent work</li> <li>Reduce youth not in employment, education or training</li> <li>Achieve higher levels of economic productivity through diversification, technological upgrading and innovation</li> <li>Improve resource efficiency in consumption and production</li> </ul>
<p><b>Industry innovation &amp; infrastructure</b></p>	<p>We enhance productivity, safety and reduction of the environmental impact of our customers' business by providing innovative and environmentally sound business solutions.</p> <p>We collaborate with business partners and stakeholders, including our customers, towards advanced technology contributing to sustainable infrastructure and energy/resource development.</p>	<ul style="list-style-type: none"> <li>Develop resilient infrastructure to support economic development and human well-being</li> <li>Promote inclusive and sustainable industrialization</li> <li>Upgrade infrastructure with greater adoption of clean and environmentally sound technologies and industrial processes</li> <li>Encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending</li> </ul>
<p><b>Sustainable cities</b></p>	<p>We contribute to bringing industrial vitalization and enhancement of quality of life through our Dantotsu (Unrivaled) Products, Services and Solutions which accelerate sustainable infrastructure development and urbanization.</p> <p>We support development of cities resilient to natural disasters and provide disaster relief using Komatsu equipment and core business skills.</p>	<ul style="list-style-type: none"> <li>Provide access to sustainable transport systems (infrastructures, including roads) for all</li> <li>Enhance inclusive and sustainable urbanization</li> <li>Reduce the environmental impact by waste management</li> <li>Reduce the number of people affected by disasters</li> </ul>
<p><b>Climate change</b></p>	<p>We commit to reduce carbon emissions and environmental impact throughout our value chain.</p> <p>We increase efficiency and reduce energy use through innovation.</p>	<ul style="list-style-type: none"> <li>Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters</li> <li>Raising capacity for effective climate change-related planning and management focusing on women, youth and communities</li> </ul>
<p><b>Partnerships</b></p>	<p>We engage with stakeholders to understand societal needs and take action.</p> <p>We foster actions complying with social, environmental and working condition norms including our business partners.</p> <p>We work towards social solutions through open innovation, academic-industrial collaborations, and partnering with customers, distributors, suppliers and local communities.</p>	<ul style="list-style-type: none"> <li>Enhance regional and international cooperation on and access to science, technology and innovation</li> <li>Enhance knowledge sharing through a global technology facilitation mechanism</li> <li>Enhance the global partnership for sustainable development complemented by multi-stakeholder partnerships</li> </ul>

Enhancing Quality of Life    Developing People    Growing with Society

Our next steps are to engage with additional internal and external stakeholders, share this information and follow the Plan-Do-Check-Act method to validate the analysis and establish an action plan.

Following this analysis, we are now reviewing what additional opportunities exist for Komatsu to make an increased contribution to the achievement of the SDGs, focusing on SDGs 8, 9, 11, 13, and 17. We will prioritize opportunities that contribute to the SDGs by creating value for stakeholders and shareholders, and will communicate progress in future Komatsu reports.



## Management of Environmental and Social Initiatives

008 Comparison with Global Principles

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010 Dialogue with Our Stakeholders

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012 Organization to Promote CSR

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013 Major Achievements

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020 External Evaluations

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## Comparison with Global Principles

What Komatsu considers to be material issues are listed in our CSR Priorities, each of which are in line with international standards such as the ISO26000 and the United Nations Global Compact.

Details on these standards can be found in "[Komatsu's Worldwide Code of Business Conduct](#)" and the "[CSR Procurement Guidelines](#),".

ISO26000 core subjects /issues	UNGC 10 Principles	Komatsu's CSR Priorities	Incorporation into Komatsu's Internal Guidelines ■ : Items of Komatsu's Worldwide Code of Business Conduct ● : Items of Komatsu Group CSR Procurement Guidelines
Organizational Governance		<ul style="list-style-type: none"> <li>■ Corporate Governance</li> <li>■ Compliance</li> <li>■ Collaboration with business partners to comply with social regulations</li> </ul>	<ul style="list-style-type: none"> <li>■ "Quality and Reliability" of organizational structure, business operations, employees and management</li> <li>■ Emphasis on corporate governance</li> <li>■ ● Compliance with the Rules</li> </ul>
Human Rights	<b>Human Rights</b> Principle 1 Principle 2	<ul style="list-style-type: none"> <li>■ Respecting human rights</li> <li>■ Collaboration with business partners to comply with social regulations</li> <li>■ Development of local communities</li> <li>■ Disaster relief</li> <li>■ Improving local residents' quality of life</li> </ul>	<ul style="list-style-type: none"> <li>■ ● Respect for human rights</li> <li>■ Due consideration to work-life balance</li> </ul>
Labour Practices	<b>Labour</b> Principle 3 Principle 4 Principle 5 Principle 6	<ul style="list-style-type: none"> <li>■ Providing safe products, services and solutions</li> <li>■ Equal employment</li> <li>■ Safety and health</li> <li>■ Human resource development</li> <li>■ Collaboration with business partners to comply with social regulations</li> </ul>	<ul style="list-style-type: none"> <li>■ Conversations or discussions with employees or their representatives</li> <li>■ ● Zero tolerance for child labor and forced labor</li> <li>■ ● Promotion of equal opportunities for employment, with zero tolerance for discrimination and any kind of harassment</li> <li>■ ● Ensuring a safe and comfortable work environment</li> <li>■ ● Human resources management in fair and impartial manner</li> </ul>

## Comparison with Global Principles

ISO26000 core subjects /issues	UNGC 10 Principles	Komatsu's CSR Priorities	Incorporation into Komatsu's Internal Guidelines ■ : Items of Komatsu's Worldwide Code of Business Conduct ● : Items of Komatsu Group CSR Procurement Guidelines
The Environment	<b>Environment</b> Principle 7 Principle 8 Principle 9	<ul style="list-style-type: none"> <li>■ Providing environment-friendly products, services and solutions</li> <li>■ Environmental efficiency (facilities, such as plants and operation sites)</li> <li>■ Remanufacturing</li> </ul>	<ul style="list-style-type: none"> <li>■ Providing products, services and systems that are environmentally-conscious</li> <li>■ Environmental protection</li> <li>■ Komatsu Earth Environmental Charter</li> <li>■ Declaration of Conservation of Biodiversity</li> <li>● Reducing environmental impact, managing chemical substances and building up environmental management systems</li> </ul>
Fair Operating Practices	<b>Anti-Corruption</b> Principle 10	<ul style="list-style-type: none"> <li>■ Corporate governance</li> <li>■ Compliance</li> <li>■ Collaboration with business partners to comply with social regulations</li> </ul>	<ul style="list-style-type: none"> <li>■ ● Fair and appropriate business operations</li> <li>● Fair and proper relationship with governmental bodies and agencies</li> <li>■ ● Never providing, offering or promising inappropriate money, goods or favors</li> </ul>
Consumer Issues		<ul style="list-style-type: none"> <li>■ Providing safe products, services and solutions</li> <li>■ Responsible marketing and customer care</li> <li>■ Providing environment-friendly products, services and solutions</li> <li>■ Remanufacturing</li> </ul>	<ul style="list-style-type: none"> <li>■ Providing customers with suitable solutions and striving to deliver products, services and systems that are safe, environmentally-conscious and innovative</li> <li>■ Environmental protection</li> <li>■ ● Reducing environmental impact, managing chemical substances and building up environmental management systems</li> </ul>
Community Involvement and Development		<ul style="list-style-type: none"> <li>■ Development of local communities</li> <li>■ Disaster relief</li> <li>■ Improving local residents' quality of life</li> <li>■ Human resources development</li> </ul>	<ul style="list-style-type: none"> <li>■ To fully understand its social responsibilities as a corporate citizen</li> <li>■ Groupwide social contribution (5 Basic Principles for Social Contribution)</li> <li>■ ● Good harmony with local communities</li> </ul>



# Dialogue with Our Stakeholders

## Creating a Variety of Opportunities for Dialogue

Engaging in dialogues with our stakeholders is essential for determining the relative effectiveness of Komatsu's management and business operations in terms of meeting social needs. Every department that has direct contact with our stakeholders strives to create an environment of transparency and integrity by detailing our company's current situation, receiving feedback, and engaging in effective discussions.

Stakeholders	Purposes	Examples of Meetings and Activities	Frequency
Customers	Collaborate to realize customers' goals and fulfill corporate responsibility	› Brand Management Activities	Daily
	Collaborate to resolve issues in society and in the regions where we operate, and participate in local activities		Daily
Business Partners	President explains business performances, policies and strategies	› Various meetings with Midori-kai	3 times a year
	Conduct safety patrols and provide opportunities such as for support of efforts for obtaining certification		As needed
Distributors	Explanation by the President on business performance, policies and strategies	Distributor meetings in each region	Annually
Employees	Explanation by the President business performance, policies and strategies	Meetings with the President	Semi-annually (As needed)
		› Sharing Q&A session content with global employees via the intranet	As needed
	Dialogue with the labor union and employee representatives to improve the workplace environment	Regular Meetings between Management and Labor Union	As needed

## Dialogue with Our Stakeholders

Stakeholders	Purposes	Examples of Meetings and Activities	Frequency
Local Community	Explanation of initiatives related to operations, the environment and safety	Meetings with residents of the local community near the plant	As needed
	Activities to resolve local issues based on employee suggestions	Voluntary activities by employees	Daily
Industry-Academia Collaboration Partners	Exchange of ideas and opinions between representatives such as university professors and our Chief Technology Officer	Komatsu Science and Technology Collaboration Council	Biannually
Investors	CEO and CFO explanation of business performance, policies and strategies	› IR Meetings	Japan: Daily USA and Europe: Annually
	Respond to inquiries and SRI surveys	› SRI Surveys	Daily
Individual Shareholders	CEO and CFO explanation of business performance, policies and strategies	› Shareholders Meetings	2 times a year, held in Japan
	Plant tours and explanation of operations	› Plant tours for shareholders	About twice a year in Japan

# Organization to Promote CSR

The CSR Department is an organization under the direct control of the President and has established the CSR Committee chaired by the President, and has the opportunity for top management to regularly discuss the direction of CSR strategy. In addition, the CSR Steering Committee, which consists mainly of related officers, conducts discussions on the policy of individual activities, and in particular, is responsible for governance functions in conducting social contribution activities.

Our CSR activities are integrated to our daily business activities, and we engage in them through dedicated divisions and committees organized in all our Group companies. With respect to our major overseas subsidiaries, we communicate with staff responsible for CSR activities on a daily basis and share information in an effort to bolster our organization and promote CSR activities worldwide.



## Reinforcement of Our CSR Systems

### Evaluation Tools for CSR Activities

We evaluate new initiatives to determine whether they are beneficial to both our business and our stakeholders. Of particular importance are social contribution activities (donations), which we have monitored diligently with regards to their effectiveness as CSR activities since FY2013. This is carried out using a donation check sheet that we created to assess quantitative effects via two perspectives (our business and our stakeholders), which is then evaluated by our CSR Steering Committee upon completion.

### Global Information Sharing

Prior to FY 2015, information on CSR activities implemented in overseas subsidiaries were obtained through questionnaires that were collected periodically. We have since updated this system in order to increase its reach and effectiveness; the information is now updated daily on a bulletin board so that it can be disseminated on a global scale through the intranet.

In addition, overseas subsidiaries set up places for exchange of opinions through individual visits, e-mail, telephone, etc., for about 30 persons in charge who are responsible for the CSR activities of each company to share current status globally. In the future, by collecting various opinions from various areas of the world, we will create a system to comprehensively understand and share what is required on the front lines of the business sites.



# Major Achievements

Komatsu's CSR themes, concrete initiatives of key business activities are as follows.

## Contributing to Society through Core Business

### Theme1 : Enhancing Quality of Life -Providing Products Required by Society -

Providing products and services that contribute to infrastructure development and improvement of quality of life  
Improving productivity, safety and efficiency, and enhancing energy conservation through innovations

#### Major Achievements for FY2018

- Solution Business SMARTCONSTRUCTION - Partnership to increase the safety and productivity of construction sites -

##### Related article

- › [Komatsu at CEATEC JAPAN 2018: Displaying new technologies in the making of future construction jobsites](#)

- Expansion of launching construction equipment that respond to comprehensive applications of ICT "i-Construction" advocated by Japan's MLIT
- Global expansion of SMARTCONSTRUCTION in North America, Europe and Australia

##### Related article

- › [Komatsu partners with Propeller to bring enterprise-grade drone analytics solutions to the construction industry\(Komatsu America Corp.\)](#)
- › [Komatsu Europe introduces PC360LCi-11 Excavator\(Komatsu International N.V.\)](#)
- › [Komatsu Europe presents Smart Construction at bauma 2019\(Komatsu International N.V.\)](#)

- Expansion of the commercial deployment of Autonomous Haulage System

##### Related article

- › [FrontRunner autonomous haulage system sets new record with latest industry milestone\(Komatsu America Corp.\)](#)
- › [Komatsu first to operate Autonomous Haulage System over dedicated private LTE network\(Komatsu America Corp.\)](#)

## Major Achievements

## Major Achievements for FY2018

- Expansion of the forest machinery business

**Related article**

- [Komatsu Acquires a Swedish Manufacturer of Forest Machine Simulators](#)
- [Komatsu announces purchase of forestry machine manufacturer TimberPro](#)

Improving environmental efficiency at operation sites and plants  
Komatsu announces purchase of forestry machine manufacturer TimberPro

## Major Achievements for FY2018

- Tier4 Final Compliant Models Released
- Reduction in CO<sub>2</sub> Emissions of Construction Equipment

**Related article**

- [Komatsu Europe announces EU Stage V Engines](#)
- [Komatsu International N.V.](#)

- Reduction of CO<sub>2</sub> emissions in manufacturing in;  
Japan -39.8% (compared to FY2000)  
Overseas -33.6% (compared to FY2010)

- Reduction of water consumption in Japan: -51.3% (compared to FY2010)

- Implemented reducing electricity usage project to suppliers (96 companies)

Enhancing safety for society, customers, employees and business partners

## Major Achievements for FY2018

- Cardiopulmonary resuscitation training for all domestic Komatsu Group employees

**Related article**

- [Komatsu and Consol Energy earn national mining safety innovation award \(Komatsu Mining Corp.\)](#)
- [Komatsu Mining Corp. has been named one of America's Safest Companies \(Komatsu Mining Corp.\)](#)

Promoting the Five-Year Health Development Plan in Japan (Lifestyle diseases, cancer, Tabaco and mental health)

**Related article**

- [Occupational Safety and Health](#)

## Major Achievements

### Major Achievements for FY2018

- Safety patrol in suppliers' sites (99 companies)

#### Related article

- › [Occupational Safety and Health](#)

## Theme2 : Developing People

Enhancing our employees and suppliers through the KOMATSU Way

### Major Achievements for FY2018

Employee trainings (non-consolidated);

- Average hours per FTE: 58 hours
- Average spent per FTE: JPY 245 thousand

#### Related article

- › [Employee Training Structure](#)

- Continued QC instructor trainings to overseas subsidiaries

#### Related article

- › [Employee Training Structure](#)

- "Dubai Training & Demonstration Center" established in UAE
- PT Komatsu Indonesia Wins the Deming Prize
- Manufacturing skill competition (181 participants from 11 countries)
- QC circle competition (94 cases from 14 countries)

#### Related article

- › [Strengthening Our Gemba Capability](#)



## Major Achievements

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Development of employees and distributors through Brand Management initiatives —

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### Major Achievements for FY2018

- Improvement and expansion of Brand Management activities

#### Related article

- › [Brand Management Initiatives](#)
- 

Respect for employees, Diversity —

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### Major Achievements for FY2018

- Enhancement of employees' work-life balance (Average days of paid leave taken per year: 19.5 days)

#### Related article

- › [Enhancing Work-Life Balance](#)
- 

- Holding female employee exchange workshops
- Continuation of Career plan training for female employees

#### Related article

- › [Diversity Initiatives](#)
- 

- Promoting employment of persons with disabilities (Employment ratio : 2.55%, non-consolidated)

#### Related article

- › [Diversity Initiatives](#)
-

## Major Achievements

## Theme3 : Growing with Society

### Engaging in dialogues with our stakeholders

#### Major Achievements for FY2018

- Shareholders' meeting (December, 1,069 participants)
- Plant tours for individual shareholders (October to March, 352 participants)
- Meetings for Individual Investors (9 cities in Japan, 422 participants)
- Plant Fairs (7 plants in Japan, 67,000 visitors)
- President meeting with employees and sharing Q&A session contents with global employees

#### Related article

- › [Communication with Stakeholders](#)

### Strengthening our corporate governance and compliance

#### Major Achievements for FY2018

- Establishment of Komatsu Mining Corp. (April 2018)

#### Related article

- [Notice of Closing of Acquisition of Joy Global Inc.](#)
- [Komatsu announces plans for new headquarters of Komatsu Mining Corp. in Milwaukee's Harbor District](#)

- Conducting compliance and risk audit (521 offices)
- Conducting compliance training (32,400 employees)
- Information provision through "Everybody's Compliance" (160 issues, March 2019)

#### Related article

- › [Risk Management](#)
- › [Compliance](#)

### Promoting compliance with environmental, labor, human rights and social norms within the Group and among business partners

#### Major Achievements for FY2018

- Conducting safety patrol (99 suppliers)
- Implementation of electric power consumption reduction activities (96 suppliers)
- Implementation of CO2 emission reduction activities (10 suppliers),
- Training for updating knowledge about the Subcontractors Act (929 participants from related divisions and companies)

#### Related article

- › [Support for CSR Initiatives of Business Partners](#)

## Major Achievements

## Social Contribution Activities

## Theme1 : Enhancing Quality of Life -Providing Products Required by Society -

Support for Agriculture with ICT

## Major Achievements for FY2018

- Promotion of rice field flattening and direct sowing cultivation by multifunctional ICT bulldozers

## Theme2 : Developing People

Local HR development in the area of construction equipment and manufacturing

## Major Achievements for FY2018

- Komatsu and Cummins collaborative program

**Related article**

- › [Collaboration with Cummins Inc.](#)

Komatsu-no-mori (science class provided by retired employees and flower fostering)

## Major Achievements for FY2018

- 53,000 visitors (FY2018)

## Major Achievements

## Theme3 : Growing with Society

Disaster relief

### Major Achievements for FY2018

#### Related article

> [Disaster Relief](#)

Clearing anti-personnel landmines and community development support

### Major Achievements for FY2018

- 2,028 ha landmines removal in Cambodia. Total removal count - 1,924 landmines, Road construction 69.0km, Ponds constructed 47, Schools constructed 8 (cumulative total).
- 298 ha Cluster bomb removal in Laos. Total removal count - 2,751 bombs
- Visiting lectures in Japan approximately 60 times, about 5,500 people

#### Related article

> [Clearing Anti-Personnel Landmines and Community Development Support](#)

Supporting Flower Association of Japan

### Major Achievements for FY2018

- Technical support to fostering flowers at Komatsu-no-mori
- Donation of young cherry blossom trees to disaster areas of the Great East Japan Earthquake (more than 5,780 trees, cumulative total)

## External Evaluations

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### Commendations from Assessment Bodies



Certified by the CDP as a "Water" A List Company



Selected for inclusion in the Dow Jones Sustainability World Indices (DJSI World and DJSI Asia Pacific), SRI indexes developed by S&P Dow Jones Indices (U.S.) and RobecoSAM (Switzerland)



Selected for inclusion in the MSCI Global Sustainability Indexes, SRI indexes developed by Morgan Stanley Capital International (U.S.)

THE INCLUSION OF KOMATSU LTD IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HERIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF KOMATSU LTD BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.



Selected for inclusion in the index of companies recognized for their contribution to sustainable development by NYSE Euronext and Vigeo



Rated as a "Prime" machinery company in the social responsibility ratings by Oekom, a Germany-based independent CSR assessment company

## External Evaluations



2018 Constituent  
MSCI Japan ESG  
Select Leaders Index

Selected as a MSCI Japan ESG Select Leaders Index



2018 Constituent  
MSCI Japan Empowering  
Women Index (WIN)

Selected as a MSCI Japan Empowering Women Index



FTSE Blossom  
Japan

Selected for inclusion in the FTSE Blossom Japan Index Component (July 2018)  
“FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Komatsu has been independently assessed according to the index criteria, and has satisfied the requirements to become a constituent of the FTSE Blossom Japan Index. Created by the global index provider FTSE Russell, the FTSE Blossom Japan Index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE Blossom Japan Index is used by a wide variety of market participants to create and assess responsible investment funds and other products.”

## External Evaluations for CSR Activities (FY2018)

2018

July	Selected for inclusion in the FTSE Blossom Japan Index Component
July	Selected as a MSCI Japan ESG Select Leaders Index
July	Selected as a MSCI Japan Empowering Women Index
September	Listed on the Dow Jones Sustainability Index list of companies.

2019

January	Certified by the CDP (Carbon Disclosure Project) as a “Water” A List Company
February	Ranked 6th (among 1,221 firms) in the “CSR Firm Ranking” compiled by Toyo Keizai Inc. Granted Special Jury Prize in NIKKEI Smart Work Award 2018



## Theme 1 : Enhancing Quality of Life

- 023 Product Safety - Increasing Safety by Innovation -
- 
- 026 Quality and Reliability  
- Responsible Commitment to Customers -
- 
- 033 Occupational Safety and Health
- 
- 041 Pursuing Environmental Management
- 
- 049 Relationship between Business Activities and the Environment  
-Product Life Cycle and Mitigating Climate Change-
- 
- 060 Relationship between Business Activities and the Environment  
-Promoting Recycling-
-

# Product Safety -Increasing Safety by Innovation-

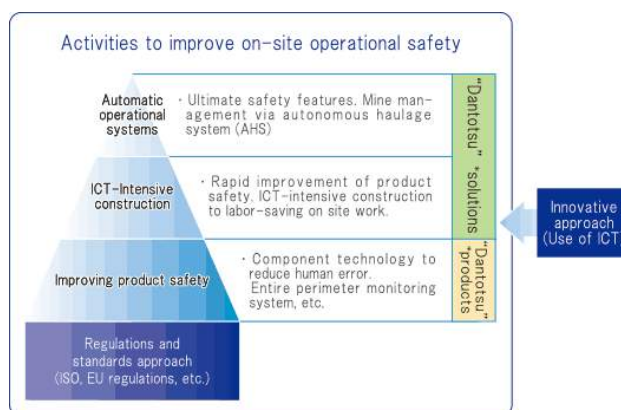
Our innovative processes afford us the ability to consistently conceive valuable ideas in multiple fields, such as environmental design and economic efficiency. Out of these areas, the one which we consider to be of the most importance is that of “Safety”.

From providing safe products to the overall safety of our automatic operational systems, we persistently utilize the full scope of our innovation capabilities to find ways in which safety is used to maximize the value of our products to our customers.

## On-site Operational Safety

The provision of profoundly safe products is the most important responsibility of any manufacturer. With that in mind, we strive to exceed what is expected of us by going above and beyond the call of duty. On top of meeting all international standards and regulations, we supplement our products with additional safety features that remain unsurpassed by our competitors.

This commitment, compounded with our innovative drive for safety improvement, also allows our customers to achieve the consummate climate of safety within their operations.



In 2013 and 2014, Komatsu introduced the ICT Bulldozer and ICT Hydraulic Excavator respectively, an innovation that made possible the automatic control of blades and buckets. These systems by-pass the need for manual experience, allowing even fresh or less-experienced workers to perfectly reproduce the same high-level precision construction work of a skilled worker. This has eliminated the past need for ancillary workers and guiding processes, thus enabling our customers to make huge savings on labor costs and improving general safety.

The pinnacle of our safety innovations has birthed a fully automated operational system, known as the Autonomous Haulage System (AHS). This ingenious system has been fully-established in certain major mines in Australia and Chile, which involves the unmanned operation of giant dump trucks that carry over 300 tons of soil and minerals. The mine is an often harsh environment which requires constant vigilance and safety protocols, having multiple construction machines and vehicles that operate around the clock on a 24 hour basis. The AHS system utilizes cutting-edge technologies like satellite communication and various radars and sensors to create a useful system that meets this need in its entirety, responding to the diverse nature of our customer’s safety requirements.

Despite these significant achievements, we are fully aware that there is always room for amelioration. We will continue to innovate and improve, furthering the evolution of such safety systems in order to realize the optimal safety environment that our customers require in their respective sites of operation.

## Example of Safety Activities

# Komatsu at CEATEC JAPAN 2018: Displaying new technologies for developing future construction jobsites

Komatsu exhibited for the first time at CEATEC JAPAN 2018, which was held in October 2018. Under the theme of safer, more productive and smarter construction job sites of the future, Komatsu introduced new initiatives in SMARTCONSTRUCTION. In 2015 Komatsu embarked on SMARTCONSTRUCTION, a solution business designed to improve the safety and productivity of construction job site operations with ICT connecting various kinds of information related to job sites, i.e., people and materials (machines, earth, etc.). The solution has been deployed at over 6,000 jobs sites to date.

### Major exhibits

#### ■ **1. Demonstration of Autonomous Operation and Remote-controlled Construction Equipment: Unmanned construction job sites of the future to be achieved by Komatsu**

By connecting the Komatsu booth in the venue and Komatsu IoT Center Tokyo in Mihama-ku, Chiba City, visitors watched demonstrations of autonomous construction equipment currently under verification testing and demonstrations of remotely-controlled construction equipment in the 5G mobile communication generation. Streaming from the IoT Center, Komatsu introduced a fully autonomous hydraulic excavator and crawler dump truck working together at Komatsu IoT Center Tokyo. The excavator excavated, swung and loaded earth while engaging in image analysis, by using AI, and in topographic survey. The dump truck hauled excavated earth to a designated dumping site while detecting obstacles by using a camera, etc.



#### ■ **2. Land Report and Holo Diorama: Letting visitors experience construction progress management by means of AR and VR**

Civil engineering job site operations consist of various elements, including not only operating construction equipment but also installing engineering structures and managing building materials. In order to comprehend and share these elements, two concept models, Land Report and Holo Diorama, are currently under development. A booth in which visitors could experience those models was installed at the convention.

##### — [Land Report]

Land Report is an application for mobile phones to share a variety of job site information. It combines Kayak Inc.'s AR (Augmented Reality) technology and positional information to overlap expected landscape images according to work progress on the job site (picture) taken by smart phones in real time for displaying and sharing.

##### — [Holo diorama]

This device recreates the environment of a job site in a virtual space and enables a person with VR goggles to inspect and manage a job site as if he/she were there. As all kinds of information from the job site are updated on a real-time basis, he/she can plan survey and construction work just like being on the job site.

Product Safety - Increasing Safety by Innovation -



Land Report



Holo diorama (for illustration purposes only)

**3. SMARTCONSTRUCTION Application: Becoming more user-friendly with new functions**

Komatsu significantly updated its SMARTCONSTRUCTION Application which allows for checking job site information, such as the latest construction progress, on smart phones anytime and anywhere. Komatsu introduced the SMARTCONSTRUCTION Application, which implemented new functions such as the displays of contours, gradients and aerial photos (orthophotos) taken from drones, on the 3D terrain viewer. All in all, the new application is an evolution into a system which quickly provides more user-friendly and easier-to-understand information one needs in an intuitive-use format.



New dashboard screen



3D terrain viewer (orthophoto)

## Quality and Reliability - Responsible Commitment to Customers -

Komatsu's commitment to quality and reliability is encapsulated within the fundamental principle of “Monozukuri” (manufacturing competitiveness). With this in mind, we are dedicated to maintaining a portfolio of first-class products—both hardware and software—that builds on customer satisfaction. Our basic managerial policies have a strong focus on customer-centricity, creating a manufacturing ecosystem that places customer satisfaction at the forefront of its priorities. We maintain the standards of quality that have become an integral part of our organizational culture through a continuous process of assessment and refinement that takes place across all areas of our production process.

Our quality management systems touch on a number of specific fields, such as the global environment, quality assurance, and the education and training of our personnel. We also evaluate our performance in these areas using a number of key performance indicators.

### Our Principles (Komatsu's Principles that govern Quality Assurance)

Komatsu has established the following principles on quality in its products and services, which all subsidiaries and employees are responsible for putting into practice.

#### General Approach to Quality and Reliability

We provide customers with products, services, and systems that are considered to be environment friendly, safe, and innovative.

#### Definition of Quality Assurance

The company has a responsibility to take actions that will ensure it is able to provide products and services that the customer can purchase and use with a sense of assurance and satisfaction and use for many years to come.

#### Principles Governing Quality Assurance

1. Putting customers first, being receptive to the views of the customer, and responding appropriately to the customer, thereby earning the customer's satisfaction, are fundamental to the job of every employee and constitute the responsibility of every employee.
2. Complying with international standards and the legal requirements particular to individual countries as a matter of course, and providing products and services that, from the perspective of the customer, have incorporated proper regard for safety and a sense of assurance and that do not easily malfunction, are fundamental to the job of every employee and constitute the responsibility of every employee.
3. Providing products and services that incorporate proper regard for global environmental conservation is fundamental to the job of every employee and constitute the responsibility of every employee.

## Quality and Reliability - Responsible Commitment to Customers -

4. Providing products and services that are creative and provide benefits to the customer is fundamental to the job of every employee and constitute the responsibility of every employee.
5. Giving the customer a sense of safety, assurance, satisfaction, and the ability to use the product for many years to come is a source of happiness for every employee.

## Mechanisms for Quality Assurance

Komatsu employees across all areas of our operations, from product planning to development, manufacturing, sales, and after-sales service, work together as a single cohesive unit to ensure that the products we develop are safe, innovative, and of high quality. Our unique “monozukuri” system enables the creation and subsequent introduction of highly competitive DANTOTSU products into the market, whilst maintaining our significant competitive advantage through goods and services with a wide array of substantial features.

Keeping in line with our commitment to product quality and innovation, a variety of meetings are held at each stage of the development and manufacturing process in order to ensure that our offerings are of the highest possible quality. Through this meticulous step-by-step process, the product's features are enhanced and refined until it meets the high standards that we adhere to.

Through such approaches, the company is able to strengthen safety assurance and satisfaction for customers while simultaneously providing products and services that take the global environment into account and comply with both international specifications and the regulatory requirements of individual countries.



## Structure for Quality Assurance

The majority of Komatsu's product portfolio is made up of manufacturing equipment (construction and mining equipment, presses, and forklifts) that lend value to customer enterprises through enhanced rates of operation and productivity. In order to ensure optimal user experience, Komatsu sales agents engage with customers on both a pre-sale and post-sale basis to provide advice, conduct maintenance, and collect feedback. This collated information is then related back to the relevant Komatsu divisions for evaluation and, if it should be needed, subsequent follow-ups or remedial actions.

Komatsu also maintains comprehensive databases on market information regarding product quality. Company sales staff are able to utilize this wealth of information to ensure the rapid resolution of quality-related issues, should they be raised.

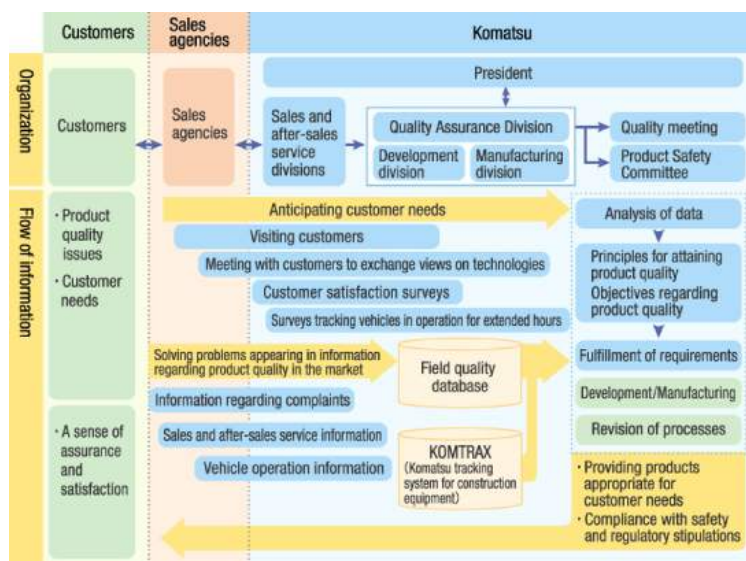


## Increasing the Degree of Customer Satisfaction

In accordance with our Principles that Governing Quality Assurance, Komatsu has introduced a range of initiatives that deal explicitly with increasing customer satisfaction.

We take customer response seriously, and have implemented rigorous feedback mechanisms in order to give due consideration to the views of our consumers. Utilizing regular customer satisfaction and post-launch field surveys, we acquire and collate copious amounts of data. The results from these assessments are used by our analysts to improve upon not only our product quality, but our quality assurance frameworks as well. The surveys help furnish new value to customers as the company develops DANTOTSU products that anticipate customer needs in advance and delivers services with distinct features.

Komatsu is able to raise the level of customer satisfaction through the following approaches.

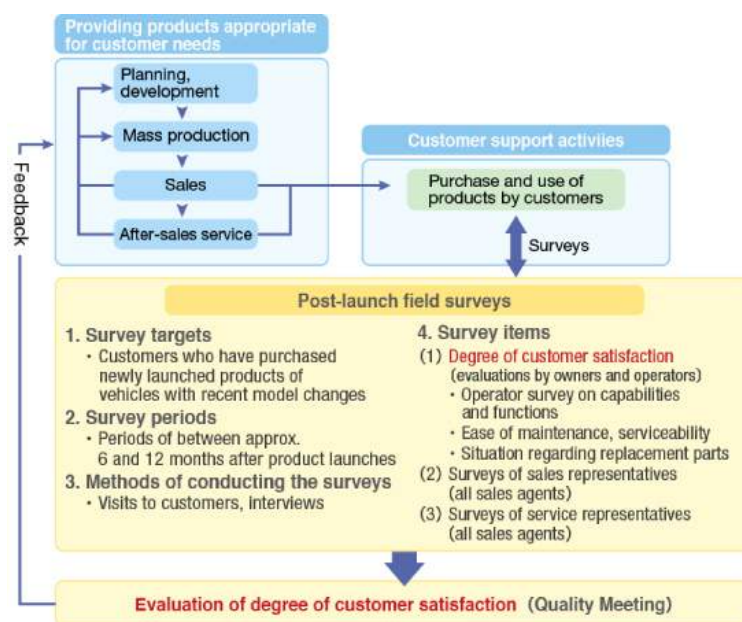


### Post-launch Field Surveys and Feedback of Results

Komatsu's post-launch field surveys are a core component of our customer satisfaction assurance framework, conducted by our employees who visit purchasers of our newly developed products in order to acquire important data regarding product evaluation.

These personnel listen to customer feedback, taking input on all aspects of the product in order to report back to the relevant Komatsu divisions. After careful assessment of operational feedback and customer requests pertaining to service and replacement parts, we process the data into quantified objectives for improvement. The data is also disseminated to all levels of the company in order to ensure an effective understanding of customer needs and potential areas for advancement. With these systems in place, we are able to consistently deliver products and services that generate optimal levels of customer satisfaction.

## Quality and Reliability - Responsible Commitment to Customers -



## Tracking Vehicles with Extended Hours of Operation\*

Keeping in accordance with our commitment for pursuing product durability and reliability, we track our product vehicles that have seen lengthy periods of operational service. By storing this information, Komatsu is able to predict potential issues with product usability and respond promptly to requests for servicing and other maintenance concerns. In addition to this, we utilize a remote management system named “KOMTRAX PLUS” to monitor equipment operating conditions, allowing us to ensure continued product stability in terms of durability, efficiency, and functionality. Through these assessment systems, we are able to analyze customer expectations and satisfaction in relation to our product quality objectives. Should there be a failure to meet these objectives, Komatsu designs carefully evaluated proposals to rectify problematic areas, later integrating any effective measures into product revisions or development. This process increases product durability and reliability and thus extends product lifecycles, leading to greater customer satisfaction and an overall decrease in resource consumption and waste production.

\* Defined as vehicles with an operating history of 5,000 hours or more

## Using ICT to Support Customers throughout the Product Life Cycle

Komatsu uses ICT-based remote vehicle management systems in order to track the current status of a vehicle's “health”, its operating status, and other relevant information metrics. The Komatsu Tracking System (KOMTRAX) is used for conventional construction equipment, while the Komatsu Tracking System Plus (KOMTRAX Plus) is used in relation with larger mining equipment.

## Quality Assurance Activities at the Global Level

By fully implementing our quality assurance systems on a global level, Komatsu is able to ensure that its products meet a standardized level of high quality across all countries of operation. Regardless of geographical location, our products are subject to strict, uniform standards in relation to technical drawings, manufacturing systems, inspection methods, information collection, and quality management.

Komatsu has a number of manufacturing facilities that it refers to as “mother plants”. These plants have product development capabilities and serve as the central hub for global product development initiatives using cutting-edge technologies and techniques. Any form of progress or advancement that is conceived at a “mother plant” is immediately disseminated to other Komatsu

manufacturing locations around the world, creating a uniform ecosystem that promotes technological development and enhances product quality.

## Standards for Product Safety

Safety and customer trust are at the forefront of all our quality assurance activities. In line with this dedication, Komatsu has formulated a number of Product Safety Standards and associated principles that all employees are expected to comply with in the execution of their duties. This enables us to live up to our established reputation by delivering products that exceed customer expectations in terms of safety, quality, and longevity.

### Information System for Product Safety and Services

While we have utmost confidence in the safety of our products, Komatsu is nonetheless aware of the fact that potential issues could arise in the course of their usage. In order to facilitate a rapid response to any problems that occur, we have established an information system that deals exclusively with product safety concerns.

The system executes a consistent process of education and refinement, making constant improvements and allowing employees at all levels to respond quickly to problems without delay. Using the system, personnel are able to (1) assess the cause of the accident and subsequent procedures to be taken, (2) contact the relevant governing authorities, and (3) decide the best course of action in terms of remedial measures, such as product recalls.

### Standards for Product Safety

#### 1. Compliance

The provision of products and services that comply with international standards and the legal requirements particular to individual countries is fundamental to the job of every employee and constitutes the responsibility of every employee.

#### 2. Safety via prevention

The provision of products and services that are safe and provide a sense of assurance, and do no harm to the customer is fundamental to the job of every employee and constitutes the responsibility of every employee.

#### 3. Security regarding accidents

The provision of products and services that minimize any injury that might occur to a customer who has an accident is fundamental to the job of every employee and constitutes the responsibility of every employee.

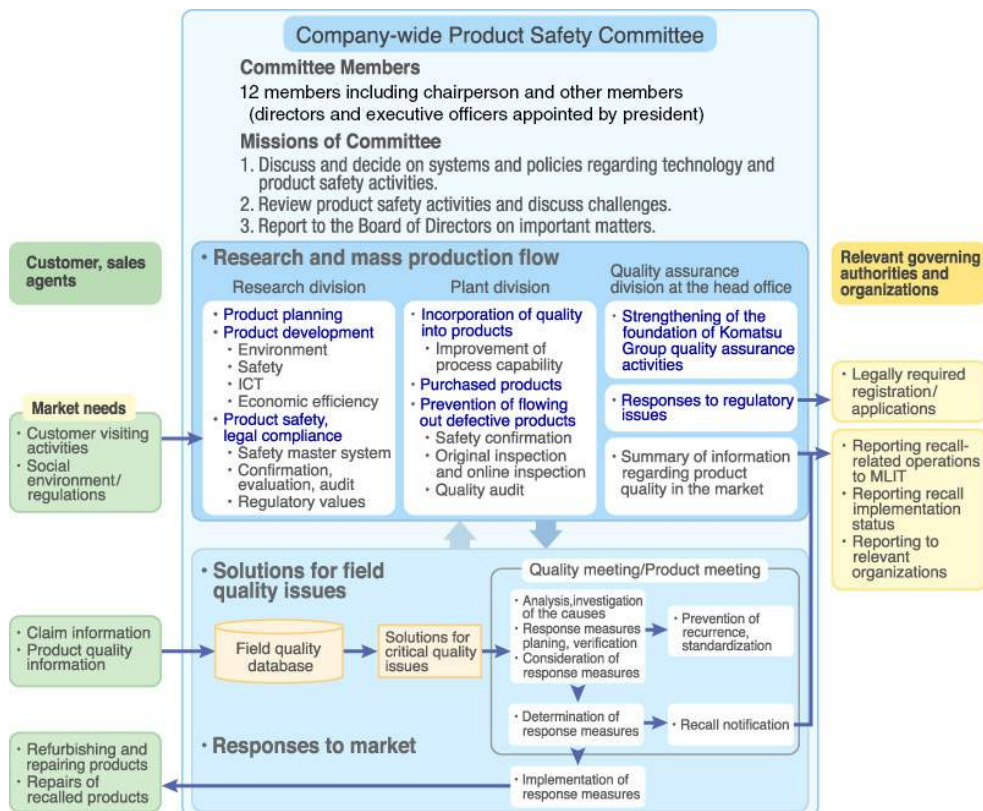
#### 4. Transparency

The ongoing provision of advance safety warnings after receiving information from the customer and, in the case of a defect arising in a product or service, prompt response measures and the provision of information, are fundamental to the job of every employee and constitute the responsibility of every employee.

#### 5. Improvement of organizational culture

In order to create a corporate culture in which product safety is emphasized, the standardization of the safety management system and safety techniques as well as ongoing efforts to improve them are at all times fundamental to the job of every employee and constitute the responsibility of every employee.

## Quality and Reliability - Responsible Commitment to Customers -



## Providing Product Safety Information to Customers

Komatsu meets legal requirements for the provision of safety information through (1) direct indication of information on products or in user manuals, (2) direct explanations by pre-sale and post-sale service personnel, and (3) telephone consultations with pre-sale and post-sale service divisions. In addition to this, we provide further engagement on a case-by-case basis, with engineers or upper-management visiting customers when necessary.

## System for Dealing with Recalls

We have noticed a paradigm shift in customer concerns in recent years, with a greater focus on product safety and recalls. To meet these new expectations and ensure product safety in our markets, Komatsu is reinforcing its recall-related organizational strength, comprehensive response capabilities, procedures for prompt corrective measures, and proactive information disclosure whilst conducting increasingly rigorous monitoring activities.

### ■ Procedure regarding recalls

1. Proposal for rectification of the situation based on information regarding the defect; decision regarding what measures the company will take toward the market
2. File a notice with relevant authorities as provided under the law
3. Inform customers through appropriate channels
4. Take appropriate corrective measures including, for example, repairs, replacements, or refunds

## ■ System to deal with recalls appropriately

1. Strengthening of information collecting systems on product quality in the market
2. Promotion of technical verification of the problem involved in the recall and timely decision making
3. Regular auditing of recall-related operations

Komatsu strictly oversees compliance with legal requirements. Should a defect be found in its products or services, the company initiates prompt correction measures and moves forward with proactive information disclosure. The graph below indicates the number of incidents in which recall notices were filed. The company will continue to pursue safety to the greatest extent possible in the years to come.

### Number of Incidents with Recall Notices Filed (for construction equipment and utility equipment products sold in Japan)





# Occupational Safety and Health

Occupational Safety and Health is a core component in Komatsu's business operations. In line with this commitment, Komatsu thus enhances safety at the workplace for our employees and business partners.

## Our Approach to Safety and Health at the Workplace

Komatsu communicates the message of "Safety First" to the Komatsu Group and addresses occupational safety and works on mental and physical health care to create a safe and comfortable work environment.

### Message from the President Concerning Occupational Safety and Health

1. The Komatsu Group shall, first of all, strive to ensure a safe and comfortable work environment, and maintain and promote employee health.
2. The Komatsu Group shall promote proactive occupational safety and health activities in order for all employees to achieve the above conditions by working together as one team.
3. Each and every person in a senior management position of the Komatsu Group shall acknowledge the above two matters as top priority tasks and shall take the initiative in demonstrating the execution of daily duties accordingly.

Considering our obligation to occupational Safety and Health, we have implemented the following guideline: All the Komatsu Group companies, including all top managers and employees, shall promote occupational Safety and Health activities so that everyone can work in a safe and comfortable work environment in accordance with the policies described below.

### Occupational Safety and Health Policies

(Released as a part of the Komatsu's Worldwide Code of Business Conduct on April 1, 2011)

1. Observe the laws and regulations concerning occupational safety and health as well as internal rules, key items common to the Komatsu Group about occupational safety and health, and particularly items agreed as a result of labor-management consultations in each workplace.
2. Set up targets for activities based on occupational safety and health policies, review their progress, and endeavor to continuously improve and enhance occupational safety and health activities.
3. Carry out occupational safety and health activities in management-and-labor partnership on a full participation basis and keep good communication with stakeholders with regard to occupational safety and health.
4. Identify and evaluate the risk for occupational safety and health of a workplace and take appropriate actions accordingly.
5. Actively promote employees' healthcare management and support the maintenance and promotion of employees' health.
6. Actively promote education, training and qualification acquisition necessary for employees' occupational safety and health activities, and endeavor to develop human resources for safely carrying out their responsibilities in the workplace.

## Occupational Safety and Health

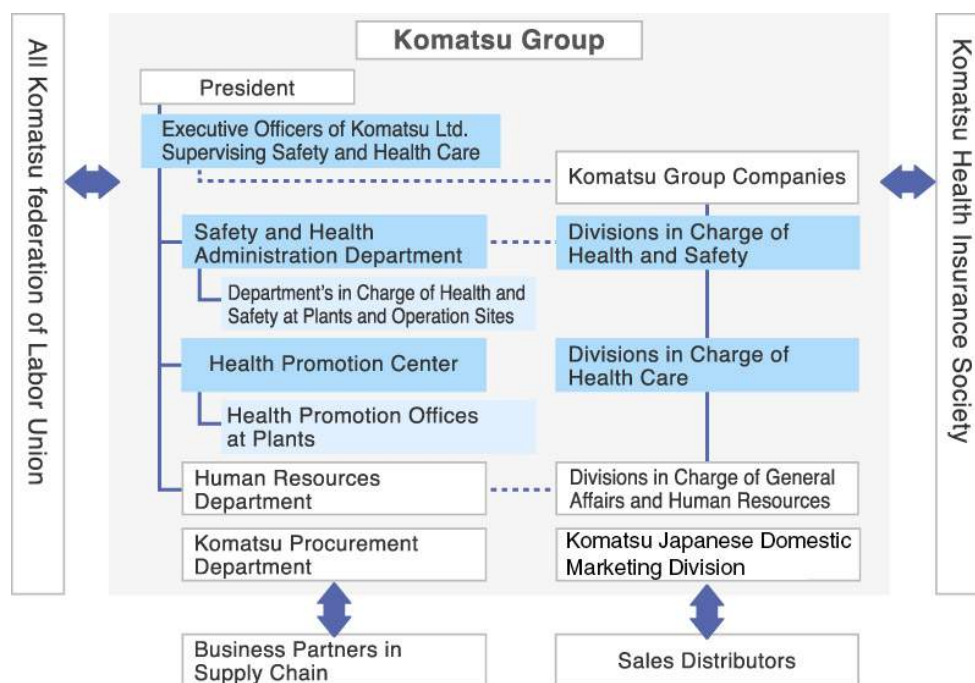
7. Subject to appropriate protection of personal information, publicly offer the knowledge and information about occupational safety and health activities obtained through the business activities in order to secure safety and health in society.

In addition to our existing health management programs, the Komatsu Group is striving to create its corporate Health Culture after the launch of the Five-Year Health Development Plan in FY2014. The goal of the Health Culture is: to look after one's own health and the health of one's colleagues, and to consider and take action on what is necessary for leading a better life. The president announced the "Komatsu Health Declaration" in June 2014 to effectively promote this goal.

## Overview of Safety and Health System

The Komatsu Group enforces strict compliance with Safety and Health management through the following system structure.

### Organization



### Meeting Committee Structure

#### ■ Group Safety and Health Conference (Safety conferences at Group companies, presentations by small groups which implement "zero accidents" activities, etc.)

This conference convenes with the aim to increase awareness regarding Safety and Health for employees of the Komatsu Group and partner companies while raising the level of Safety and Health activities. The conference engages in activities that help all the participants to share the policy, priorities and best practices of Safety and Health activities, and incorporate these practices into the daily operations at other divisions. This is also the administration of presidential awards related to Safety and Health.



## Occupational Safety and Health

### ■ Group Safety and Health Committee (Safety and Health Committees at Group companies, Plants and Operation Sites)

This committee was formed to enhance cooperation between labor and management to examine, discuss and make a decision for measures aimed at preventing hazards and health risks. This committee formulates regulations concerning Safety and Health, examines, debates and decides on related policies for the fiscal year. This is also the occasion to manage the progress of these activities.

### ■ Global Occupational Safety, Health & Environmental Affairs Meeting

Participants in this meeting discuss and share information on activities to be implemented globally, and find things in common with activities of various overseas subsidiaries to spread them out globally.

### ■ Group Health Representatives Meeting

- Formulates and makes proposals for all company policies related with safety practices.
- Promotes and implements practices based on company policies in locations of each business operation.

### ■ Health Promotion Meeting

- Formulates company-wide Safety and Health management policies and handles the overall supervision of health management activities throughout various business locations.

### ■ Health Promotion Committee

This committee consists of business owners and employees (organized by Komatsu Union) as well as the Health Insurance Society. This occasion affirms a common recognition of "Health", and formulates measures and policies aimed to enhance the health care for employees and their families.

## Safety and Health Activities

1. Raising of management level by implementing the Labor Safety and Health Management System
2. Elimination of disaster elements through risk assessment
3. Stimulating voluntary improvement activities through the small group "Zero Accidents"
4. Hazard simulation training at the "Safety Dojo", or "Safety Training Hall"
5. Enhancing the quintessential safety of equipment
6. Building physical health (health supervision for preventing diseases related to lifestyle, a diabetes management program, support for smokers who would like to quit, etc.)
7. Attaining mental health (diagnosing stress, implementing activities to improve the work environment, mental health training, establishing consultation services inside and outside of the company, support for returning to work)
8. Improving and maintaining an appropriate work environment
9. Prevention of second-hand smoke
10. Global and Group-wide activity support for overseas subsidiaries and Japanese business partners

## Main Themes of the Five-Year Health Development Plan

1. Addressing lifestyle diseases and cancer: Prevent lifestyle-related diseases and reduce the number of patients, and reduce the severity of diseases
2. Addressing tobacco-related diseases: Reduce smoking and prevent passive exposure to smoking
3. Addressing mental health: Reduce the number of individuals with mental disorders, provide early response and support return to appropriate workplaces, and create a happy and vigorous workplace
4. Addressing risks of impaired health: Eliminate and reduce the risks of impaired health associated with the work environment and operations
5. Response for small domestic worksites: Support health development at small worksites (such as sales and service sites)
6. Global response: Formulate and promote global measures for occupational safety and health management

## Cardiopulmonary resuscitation training for all domestic Komatsu Group employees

The infectious disease and first aid team of the five-year health development plan is engaging in activities to acquire knowledge and skills with regards to cardiopulmonary resuscitation methods and AED for all Komatsu Group employees in Japan. (As of the end of FY2018, domestic employee cardiopulmonary resuscitation training attendance rate: 99.7%)

The purpose of this activity is to make a stand from the perspective of respect for human life, to improve the knowledge and skills of our employees, and to take the initiative in dealing with emergency situations encountered inside and outside the company. We also aim to contribute widely to local residents by posting AED installations at each site and displaying "AED mounted car" on our service cars for the sales company.



Cardiopulmonary resuscitation training  
AED mounted car



## Supporting Supplier's Safety Activities

Komatsu is conducting the following safety activities for the "Komatsu Midori-kai", which is an organization of Komatsu's businesses partners (suppliers) in Japan.

1. Support for the introduction of Japan Industrial Safety and Health Association (JISHA)'s Workplace Safety Health Impact Project for small and medium-sized businesses (2015)  
For our 97 business partners—suppliers of outsourced items—Komatsu introduced JISHA's Workplace Safety Health Impact Project, paying for the inspection fees, and asking each company to improve their safety level in 2015.
2. Conduct Safety Patrols  
Komatsu conducts paperwork inspections and patrols the workplace, checking especially the legal compliance status (such as notifications and inspections) and unsafe places in the workplace and the possibility of unsafe conduct. For findings, we request the submission of a report listing preventative measures, and follow up accordingly.
3. Participation of business partners in the Komatsu Group Safety and Health Conference.  
The heads of business partners are invited to participate in the Komatsu Group Safety and Health Conference that is held every year in June.

Occupational Safety and Health

4. Focused guidance for companies that have repeated accidents  
For cooperating businesses that have repeated accidents, Komatsu requests a submission of a "Special Safety Activity Chart", and based on the situation of each company, guidance and support is provided by the district procurement department.
5. Implementation of Mutual Safety Patrol  
Patrols are conducted between cooperating businesses from their similar business standpoint, and in cases where there are findings, we request a submission of a report listing preventative measures and follow up accordingly.

## Awareness Raising on HIV/AIDS Issues at Komatsu South Africa (Pty) Ltd.

At Komatsu South Africa, we provided an opportunity for our employees to learn about HIV/AIDS as part of the Wellness Day events. The objective of this initiative is to increase general awareness of health, not only by learning basic knowledge on HIV/AIDS, but also by receiving medical check-ups and obtaining knowledge on healthy life styles.



## Status in FY2018

### Educational Training for Labor Safety and Health (in Japan)

#### ■ Education regarding Mental Health

Contents	FY2018 Practice
Based on the rules of the Industrial Safety and Health Act, educational training for mental health is conducted. Stress assessments were started in FY2006, and stress awareness training were started in FY2007 and is being held for the employees of all Group companies in Japan.	<ul style="list-style-type: none"> <li>■ Stress assessment/awareness training implemented in 17 companies, with approximately 22,659 employees</li> <li>■ “Support Letter for the Heart”, which is motivational material for management personnel, is distributed every other month to management personnel within the Group.</li> </ul>

Occupational Safety and Health

Education based on Job Levels

Contents	FY2018 Practice
Safety and Health education and mental health education is provided to each level of the company including new employees	New Employees (1 time, 380 people) 3rd year of employment with the company (9 times, 270 people) 7th year of employment with the company (1 times, 23 people) Mid-career recruitment (4 times, 116 people) New Assistant Managers (10 times, 350 people) Foremen/Senior Foremen (6 times, 124 people) New Managers (6 times, 210 people)

Number of major work-related accidents (fatal)

FY2018: 3 incidents

Occupational Accidents Overseas

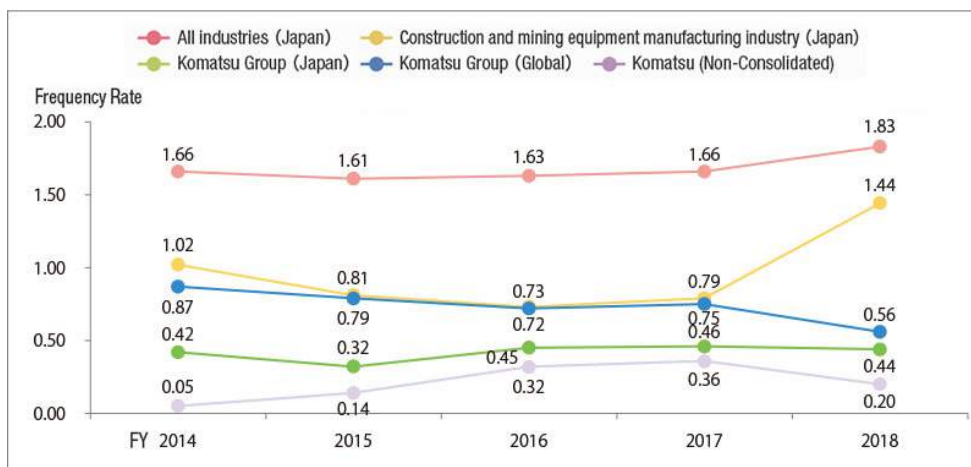
In January 2019, at a mine in Brazil, we had a severe accident in which one local employee passed away after being washed away by a massive mudslide due to the collapse of a tailings dam. Also, in March 2019, at a mine in New Mexico, the U.S. and at another mine in Mexico, we had fatal accidents in which other two local employees got injured and passed away while repairing our customers' equipment at each mining site.

The local companies have thoroughly analyzed the causes of these accidents and horizontally disseminated preventive measures.

We take these accidents very seriously, and will continue to actively engage in appropriate safety and health activities to ensure that such accidents will not occur again.

DATA

Incidence Rate of Occupational Accidents (Frequency Rate of Lost Worktime)



## Occupational Safety and Health

1. The data for all industries (Japan) and construction and mining equipment manufacturing industry (Japan) are provided by the Ministry of Health, Labour and Welfare.
2. The scope of the Komatsu Group (Japan) includes Komatsu Ltd. and group companies in Japan.
3. The scope of the Komatsu Group (global) includes "Komatsu Group (Japan)" and overseas production plants.

The Komatsu Group has been fostering activities for acquiring ISO 45001 Certification.

In Japan, Osaka Plant acquired certification for the first time in FY2019, and other divisions and Group companies are planning to acquire the certification in 2020. In addition, overseas companies plan to advance initiatives to acquire certification from FY2019.

The situation of OSHMS/OHSAS 18001 certification/renewal as of 2018 is shown below.

### OSHMS Certification and Renewal

(◎ : Certified ○ : Renewed)

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Awazu Plant		○			○			○		
Osaka Plant		○			○			○		
Oyama Plant	◎			○			○			
Ibaraki Plant	◎			○			○			
Koriyama Plant			◎			○				
Shonan Plant			◎			○			○	
Kanazawa Plant		◎	○			○			○	Preparing for the acquisition of ISO45001 certification
Tochigi Plant		◎			○			○		
Komatsu Castex		◎			○			○		
Komatsu NTC Toyama area					◎			○		
Komatsu Cabtec						◎			○	
GIGAPHOTON								◎		
KELK								◎		

## Occupational Safety and Health

## OHSAS 18001 Certified Offices

FY		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Komatsu America Chattanooga Manufacturing Operation					◎			○			○
Komatsu America Peoria Manufacturing Operation								◎			○
Komatsu Germany (Mining Division)				◎			○			○	
Komatsu Forest			○			○			○		
Komatsu Germany (Construction Division)			○			○			○		
Bangkok Komatsu								◎			○
PT Komatsu Indonesia						◎			○		
PT Komatsu Undercarriage Indonesia				○			○			○	

\* OHSMS: Occupational health and safety management systems

\* OHSAS 18001: Occupational health and safety assessment series



# Pursuing Environmental Management

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## Komatsu Earth Environment Charter

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### Komatsu Earth Environment Charter (June 2010 revision)

#### Corporate Principles

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##### ■ 1. Contributions to Realization of Sustainable Society

Mankind must not only promote the further growth of a rich and comfortable society but also pass down this indispensable environment of our planet earth to future generations in a sound and healthy condition.

We, at the Komatsu Group, define environmental conservation efforts as one of the highest priority management tasks, and endeavor to contribute to the sustainable growth of society by integrating advanced technologies into environmental conservation efforts in all our business activities. This is represented by our hybrid construction equipment which features a substantial reduction of CO<sub>2</sub> emissions while in operation and by our superior manufacturing.

##### ■ 2. Simultaneous Realization of Environmental and Economic Performance

We are committed to improving both environmental performance and economic efficiency, as a group of companies working toward superior manufacturing for customer satisfaction. To this end, we constantly take up the challenge of advancing technologies to develop creative products that improve both environmental performance throughout the product's life cycle and the product's economic performance at the same time.

##### ■ 3. Observance of Corporate Social Responsibility

Each company of the Komatsu Group promotes environmental conservation by not only complying with the applicable laws and regulations of the concerned host community, region and country but also by establishing its voluntary standards which consider global and local environmental concerns. Each company of the Group also strives to fulfill its corporate social responsibility by actively participating in local environmental conservation programs and thereby promoting close-knit communication with local communities, while striving to become a company trusted by all Komatsu stakeholders.

## Guidelines for Corporate Activity

### ■ 1. Basic Stances on Earth Environmental Problems

We, at the Komatsu Group, work for sustainable society and earth environment through our global business operations by addressing the following four environmental problems with the stances discussed below.

#### – 1)Climate Change

We will reduce the use of energy and emissions of greenhouse gas in all phases of our business activities ranging from research and development, procurement, production and logistics to sales and service as well as in the total life cycle of our products and services.

#### – 2)Establishment of a Sound Material-Cycle Society

Through our business processes, we work to minimize the use of natural resources, such as materials and water, promote their re-use or recycle them as much as possible, and expand Zero Emissions from our manufacturing activities around the world. At the same time we ensure the thorough management of waste materials in all our business domains, including our suppliers and distributors. We also continuously work to increase the recyclability rate of products at the time of disposal.

#### – 3)Conservation of Air, Water and Other Environments as well as Management of Chemical Substances

We comply with not only local laws and regulations but also with our established standards concerning the conservation of water quality, prevention of air pollution, noise and vibrations.

As much as possible, we also ensure the thorough management of chemical substances for use in our business activities, while continuously reducing the use of potentially harmful chemical substances or replacing them with alternative substances for discontinuation of their use.

#### – 4)Biodiversity

We recognize biodiversity as one of the important issues concerning the earth environment, evaluate, understand and analyze impact on it in all our business domains, and work on our tasks according to the criteria of the highest impact and/or the most effective actions.

### ■ 2. Framework of Global, Group-wide Environmental Management System

The Komatsu Head Office, as well as the manufacturing facilities and main companies of the Komatsu Group, already with ISO certifications, will work to maintain and improve their environmental management system, while other manufacturing facilities and suppliers will also work to establish their environmental management systems and reduce their environmental impact.









The Komatsu Environmental Committee develops environmental action plans and common guidelines for the Komatsu Group. Based on these Group-wide plans and guidelines, each division or company sets up its own mid- to long-term targets, develops and implements specific action plans, reviews them regularly and works to continuously improve them.

### ■ 3. Environmental Education and Communication

We believe that it is important to enhance the environmental awareness of each and every employee and thereby actively promote environmental awareness and education programs for all employees.

We will gather environment-related information concerning not only our manufacturing facilities but also other related entities, such as major affiliated companies and suppliers, and strive to disclose such information, thereby facilitating proactive communication with all our stakeholders, such as customers, employees, local communities and suppliers and further expanding the content of environmental communication.

## Environmental Policy of Domestic plants

<a href="#">› Awazu Plant (44KB)</a> 	<a href="#">› Kanazawa Plant (46KB)</a> 
<a href="#">› Osaka Plant (71KB)</a> 	<a href="#">› Oyama Plant (113KB)</a> 
<a href="#">› Ibaraki Plant (13KB)</a> 	<a href="#">› Koriyama Plant (91KB)</a> 
<a href="#">› Hiratsuka district (40KB)</a> 	<a href="#">› Environmental Policy Test Engineering Center (59KB)</a> 

## Setting Mid- and Long-Term Targets and Progress

While long-term targets for CO<sub>2</sub> reduction were set for the world at COP21 in 2015, we set additional medium and long-term targets in order for Komatsu to further contribute to climate change initiatives. We determined FY2016 as the starting point to take action based on these targets.

Through assessing the CO<sub>2</sub> generated in the life cycle of our construction equipment products, we found that CO<sub>2</sub> emissions during the use of our construction equipment make up approximately 90% of total emissions. Therefore, we are working on reducing CO<sub>2</sub> emissions over the entire life cycle of our construction equipment, and have set fuel efficiency goals for construction equipment products that are to be achieved by 2030.

With regards to the reduction of CO<sub>2</sub> for domestic production, we have considered the electricity situation that resulted from the Great Eastern Japan Earthquake in 2011 and have set increasingly stringent targets. In addition to the targets set for CO<sub>2</sub> reduction, we have also set targets for our domestic and overseas factories regarding the amounts of waste generated and the amounts of water consumption in order to promote efficient use of resources. Finally, we set Mid- and Long-Term Targets up to 2030 for CO<sub>2</sub> in logistics. Furthermore, we have announced an increase in the promotion of effort towards ESG in our medium-term management plans (FY2016-2018), with Product's CO<sub>2</sub> emissions reduction rate per unit quantity of work set as key performance indicators.

Pursuing Environmental Management

Mid- and Long-Term Targets

Area	Object	Application	Index	Base Year	Mid- and Long-Term Targets (reduction rate)		Progress (results) FY2018
					2020	2030	
Production	CO <sub>2</sub>	Japan	Improvement rate per unit of production	2000	57%	65%	39.8%
		Overseas	Improvement rate per unit of production	2010	32%	40%	33.6%
	Waste	Japan	Improvement rate per unit of production	2010	10%	20%	0.4%
		Overseas	Improvement rate per unit of production	2010	10%	20%	10.4%
	Water	Japan	Improvement rate per unit of production	2010	40%	50%	51.3%
		Overseas	Improvement rate per unit of production	2010	10%	20%	34.7%
Logistics	CO <sub>2</sub>	Japan	Improvement rate per unit of production	2006	32%	39%	31.7%
		Overseas	Improvement rate per unit of production	2011	13%	22%	0.5%
Construction equipment products performance	CO <sub>2</sub>	Hybrid Hydraulic Excavator	Fuel Consumption Reduction Rate	2007	40%	45%	36%
		Normal Hydraulic Excavator (non-hybrid)			20%	25%	3-11%

\* Minus indicates an increase

## Pursuing Environmental Management

## Additional Targets for Mid-Term Management Plan

Area	Object	Application	Index	Base Year	2025 Targets (rate of reduction)	Progress (results) FY2018
CO <sub>2</sub> during construction equipment usage	CO <sub>2</sub>	Construction equipment produced worldwide	Improvement rate per unit of production	2007	25%	8.8%

## New mid-term Targets from 2019

Komatsu has been moving forward under the new mid-term management plan from 2019. We set new ESG targets and expressed our commitment to sustainable growth through a positive cycle of profit improvement through growth strategies and initiatives for ESG issues.

Our targets from fiscal 2019 are to reduce CO<sub>2</sub> emissions from products and production by 50% by 2030. In addition, as a new indicator, we decided to aim for a ratio of 50% of renewable energy power (RE ratio) by 2030.

The new mid-term 2030 targets, including other indicators, are as follows:

## Mid-term targets (applicable from 2019)

Area	Application	Object	Index	Base Year	2030 Targets
Products	Construction Equipment Mining Equipment Forest machines	CO <sub>2</sub>	Fuel Consumption Reduction	2010	50% reduction
Production	Domestic and overseas production bases	CO <sub>2</sub>	Improvement rate of basic unit	2010	50% reduction
		Electricity	Ratio of renewable energy in total electricity usage	-	50%
		Water	Improvement rate of basic unit	2010	60% reduction
		Waste	Improvement rate of basic unit	2010	40% reduction

## Pursuing Environmental Management

Area	Application	Object	Index	Base Year	2030 Targets
Logistics	Japan	CO <sub>2</sub>	Improvement rate of basic unit	2006	39% reduction
	Overseas	CO <sub>2</sub>	Improvement rate of basic unit	2011	22% reduction
External evaluation	-	-	External evaluation	-	CDP AList (Climate, Water), Inclusion in the Dow Jones Sustainability Indices (DJSI), etc.

## SBT (Science-Based Targets) Approved

Komatsu's CO<sub>2</sub>reduction objectives have been certified by SBT as of April 11, 2017.

SBT (Science-Based Targets) is an initiative that involves “setting goals that are compatible with science.”

The COP21 (Paris Agreement) marked the introduction of a new set of CO<sub>2</sub>reduction objectives that were submitted by various countries. However, even with the summation of target values, it was found that it would be impossible for the increase of average global temperatures in 2100 to be stay within 2°C (as compared to temperatures before the Industrial Revolution).

Therefore, after a detailed examination by the businesses of the world, reduction objectives have been reassessed and SBTi (SBT initiative: CDP, Global Compact, WRI, WWF) is supporting and approving SBTs to reach the goal of an increase of less than 2°C.

Komatsu 's SBT meets the requisites of the temperature increase of less than 2°C scenario.



Komatsu 's SBT are as follows


1. SCOPE1+2: Base unit -49% (Target Year 2030; Base Year 2010)
2. SCOPE3: Total -46% (Target Year 2030; Base Year 2012)

\* Note: While Komatsu's 2015 medium and long-term objectives (2020 and 2030 respectively) differ from SBTi in terms of a few requisite conditions (such as using the same base year for assessing both domestic and overseas operations) and target values, the targeted rates of reduction are comparatively equal.

## Environmental Action Plan and Results for FY2018

To promote the Komatsu Earth Environment Charter, the company formulates environmental action plans (implementation policies) for each field, establishes action targets for each fiscal year, and steadily advances its policies, while following up on their implementation status.

The detailed Environmental Action Plan and Results for each field are as follows

[Environmental Action Plan and Results for FY2018 \(Full\)](#) (223KB) 

[Environmental Management \(126KB\)](#) 

[Research and Development \(140KB\)](#) 

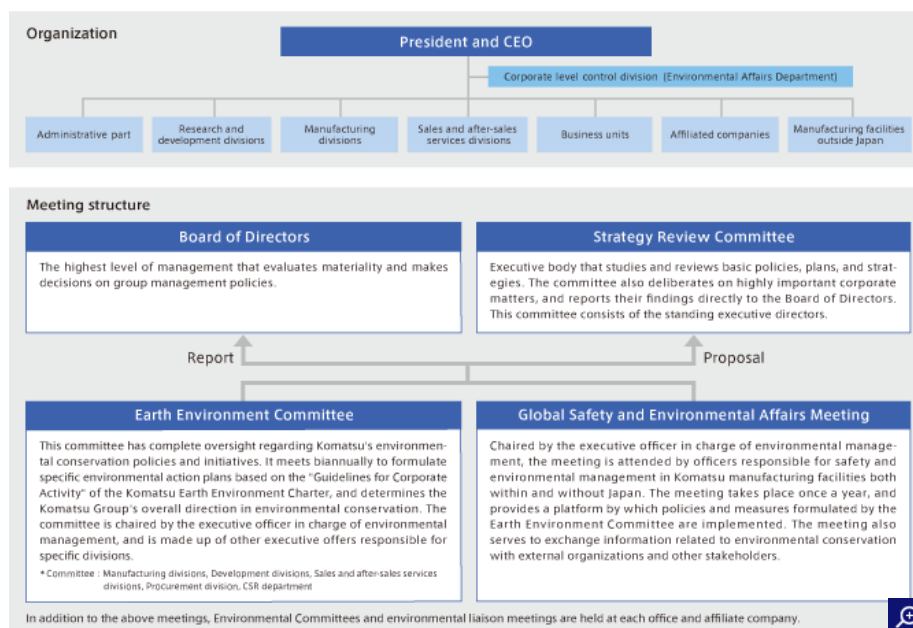
[Manufacturing \(142KB\)](#) 

[Procurement and Logistics \(177KB\)](#) 

[Sales and After-sales Services \(133KB\)](#) 

## Organizational Chart of the Environmental Management Structure

The Environmental Management Department, which reports directly to the president, oversees company-wide environmental activities and deliberates on activities at the Earth Environment Committee, which consists of executives from key functional departments.





# Acquiring ISO14001

Komatsu has implemented a Group-wide initiative to acquire ISO14001 certification, an international standard for environmental management systems. The objective is to enhance management quality by strengthening systematic steps towards environmental conservation.

Since 1997, several of our domestic and foreign manufacturing facilities received certification. We further added to this number in FY2007, with our major affiliates in Japan and non-certified non-manufacturing facilities (notably the head Office) receiving integrated certification in May 2008, allowing us to achieve integrated certification as a Group.

We acquired the Integrated Certification with the ISO14001:2015 surveillance audit for four of the Komatsu Industries Corp. office locations (Nagoya, Osaka, Hiroshima, Fukuoka) in February of 2019. As of FY2015, we have achieved certification for 100% of our major production sites situated overseas.

## ISO14001:2015 Domestic Integrated Certification



## Scope of the Integrated Certification in Japan

› [Scope of the Integrated Certification in Japan \(47KB\)](#)

## Global Operations List of certified sites

› [Global Operations List of certified sites \(108KB\)](#)

Relationship between Business Activities and the Environment -Product Life Cycle and Mitigating Climate Change-

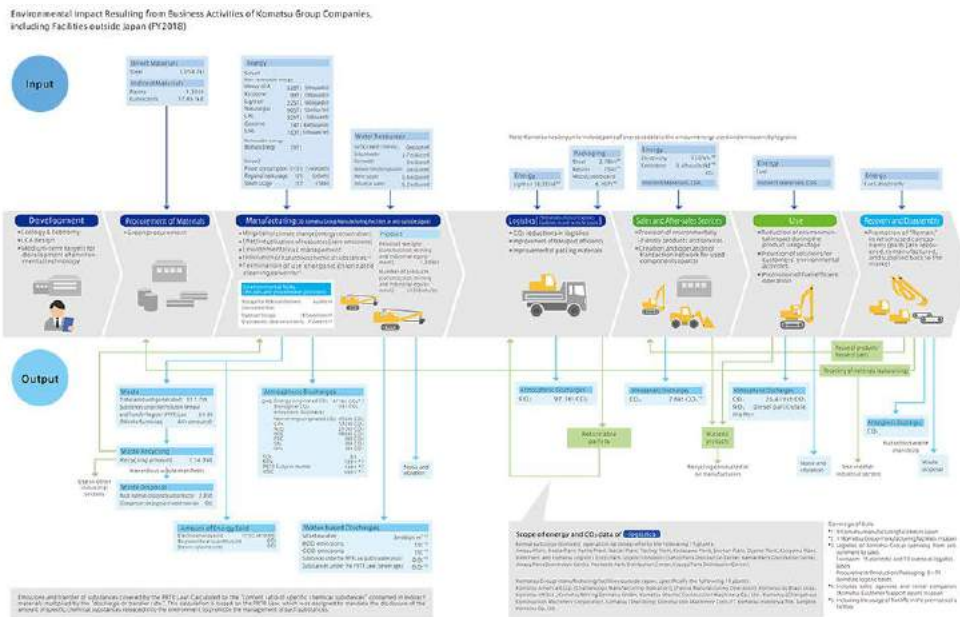
# Relationship between Business Activities and the Environment

The Komatsu Group procures various parts and materials and, through the manufacturing process, utilizes the earth's resources, including raw materials, water, energy, and chemical substances, among others, to provide products to customers. Such business activities have the potential to impact the environment at each stage in the process.

The Komatsu Group will continue to provide high value-added products and services while assessing the environmental impacts resulting from its business activities, formulating medium- and long-term objectives, and introducing measures to reduce such impacts.

## Environmental Impact Resulting from Business Activities of Komatsu Group Companies, including Facilities outside Japan (FY2018)

Independent Practitioner's Assurance 

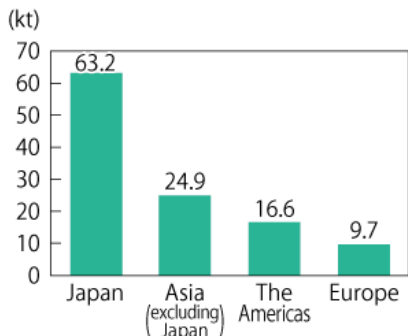


Environmental Impact Resulting from Business Activities of Komatsu Group Companies, including Facilities outside Japan (FY2018)(912KB) 

# Environmental Impact Indicators by Region

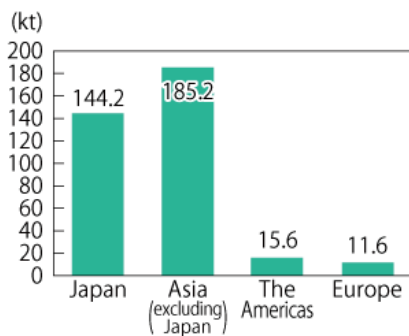
Independent Practitioner's Assurance 

**Scope1 : CO2 emitted directly by manufacturing facilities**



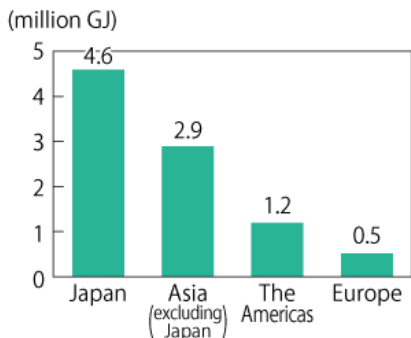
(by using generators, boilers, etc.)

**Scope2: CO2 emitted indirectly by manufacturing facilities**

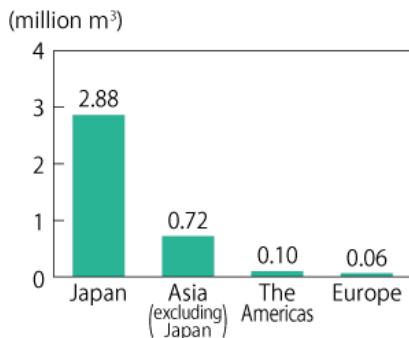


(by purchasing electricity, steam and hot water)

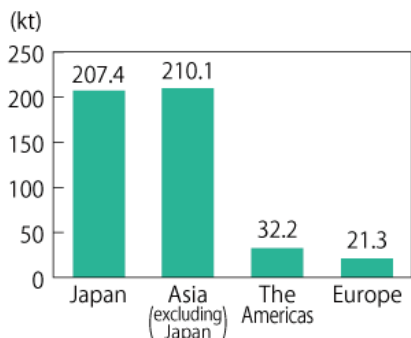
**Energy**



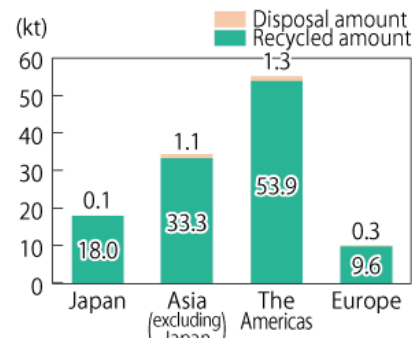
**Water Resources**



**CO2 (Scope1 and Scope2)**



**Waste**



## Mitigating Climate Change through Products and Service

The main bulk of CO<sub>2</sub> emissions produced throughout the lifecycle of our construction equipment is centered on product operation, during which approximately 90% of emissions are produced. We have acknowledged this fact, and are working to reduce these operational emissions through three different initiatives: “Dantotsu Products”, “Dantotsu Service”, and “Dantotsu Solutions”.

### Step1: Reduction of CO<sub>2</sub> Emissions through Dantotsu Products

### Step2: Reduction of CO<sub>2</sub> Emission by Products through Dantotsu Service (KOMTRAX)

The Komatsu Tracking System “KOMTRAX” is a system developed by Komatsu that automatically gathers the operational information/health information of our construction vehicles that operate all over the world, making it possible to then monitor/manage/analyze the vehicles remotely. Information with regards to operation times, fuel consumption, and other such relevant data is communicated to our customers via the internet, which is then analyzed to create opportunities for improvement. This enhanced operational efficiency helps to reduce fuel consumption, which results in a reduction in overall CO<sub>2</sub> emissions.

### Step3: Reduction of CO<sub>2</sub> Emissions for Overall Construction Work through Dantotsu Solutions (SMART CONSTRUCTION using ICT Construction Equipment)

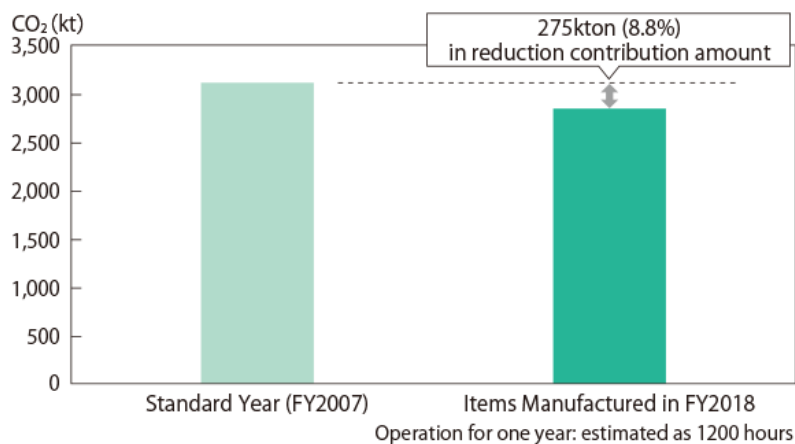
In 2013, Komatsu introduced the world’s first automatic blade control ICT bulldozer, D61PXi-23, to the North American, European, and Japanese markets. Following this, in 2014, Komatsu developed and released a hydraulic excavator with semiautomatic control functions (PC210LCi-10 for North America and Europe, and PC200i-10 for Japan). Preliminary calculations based on in-house testing were promising, with construction data for ICT hydraulic excavators showing that fore-slope shaping work using the PC200i-10 resulted in an approximate reduction of 30% in fuel consumption. In addition, the same testing showed that ICT bulldozers (like the D61DXi-23) used in land preparation work resulted in an approximate reduction of 25% in fuel consumption. Our testing with hydraulic excavators also showcased a significant decrease in CO<sub>2</sub> emissions.

To consolidate our efforts in this sector, Komatsu is implementing “SMART Construction”, a system that uses ICT-type construction machines alongside drones and 3D scanners to take real-time topography measurements. This initiative helps showcase the efficiency of our machines by recording progress in construction sites and other relevant performance indicators.

## Reduction of CO<sub>2</sub> Emissions from Construction Equipment (Estimate of Amount of Reduction Contributions)

In Komatsu's Mid-term Management Plan (FY2016 - FY2018), we set the goal of achieving a total of 25% reduction by 2025 in CO<sub>2</sub> emissions per unit of work from construction equipment, compared to our base year of FY2007. In order to assess our progress towards achieving this target, we have set up a number of key performance indicators, such as CO<sub>2</sub> reduction resulting from fuel efficiency, work efficiency, and equipment capability as compared to FY2007.

Steady progress has been made, and we found that the machines manufactured in FY2018 achieved a reduction of 8.8% in CO<sub>2</sub> emissions as compared to our base year. This equates to the reduction of 4.0 PJ in terms of energy. Constant operation of these machines for a year (about 1200 hours) would result in an overall reduction of 275,000 tons of CO<sub>2</sub>, an equivalent of approximately 58% of Komatsu's total manufacturing plant CO<sub>2</sub> emission in FY2018.

Independent Practitioner's Assurance CO<sub>2</sub> emissions for operation time of one year (kton-CO<sub>2</sub>)

## Electric Mini Excavator

– Aiming to deliver environmentally and human-friendly next-generation construction machines –

## Main Specifications

Item	Exhibited vehicle specification	
Bucket capacity (m <sup>3</sup> )	0.09	
Dimensions (for transport)	Total length (mm)	4,950
	Total width (mm)	1,740
	Total height (mm)	2,570
Rear-swing radius (mm)	1,420	
Machine weight (kg)	4,730	
Motor output (kW)	18.2	
Battery capacity (kWh)	36	

## PC2000-11 (Tier4 Final) North America Specification – Equipped with next-generation clean engine, environmentally friendly –

### PC2000-11 Work volume, fuel consumption, fuel efficiency

Work mode	Compared to existing 8 type P mode		
	P+	P	E
Use	Large output	Prioritize output	Prioritize fuel consumption
Work volume (t/h)	1.12	1.03	1.00
Fuel consumption (l/h)	1.08	0.96	0.92
Fuel efficiency (t/l)	1.04	1.07	1.08

## Initiatives to Mitigate Climate Change in Business Operations

### Reducing CO<sub>2</sub> Emissions in Manufacturing Operations

As a part of our efforts to mitigate climate change, Komatsu set mid- and long-term objectives in Japan and at overseas operations about the amount of electricity, gas, oil and other types of energy used in research/development at our offices and in manufacturing operations. By using CO<sub>2</sub> emissions per unit of manufacturing value as our main indicator, we aim to proactively reduce the amount of CO<sub>2</sub> emissions per unit.

In 2010, in response to the climate change issues raised in the Post-Kyoto Protocol, we set a mid-term objective of a 40% reduction in CO<sub>2</sub> emission levels by 2015, compared to the level in 1990. However, using the activities that followed the Great East Japan Earthquake as an impetus to cut electricity use by half, we have changed our midterm objectives and set the ambitious goal of a 54% reduction compared to FY2000 levels, pursued activities to reduce power consumption and achieved significant success. As a result, in February 2017, we received the Kanto Bureau of Economy, Trade and Industry Director's Award as a superior energy management business operator. From FY2016, we have set new mid- and long-term objectives for both domestic and overseas operations, and are moving forward with further activities for improvement.

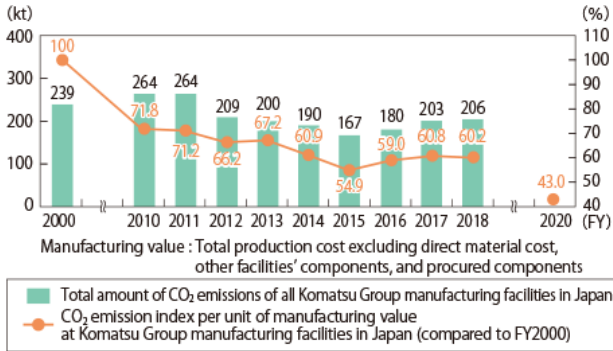
In FY2018, because of the increase in production due to growing demand for construction/mine machinery, CO<sub>2</sub> emissions increased in Japan and overseas. However, the emission intensity per production value declined from the previous year.

We promoted energy-saving activities through production reform across the company and the additional establishment of solar power plants in Japan, reducing the CO<sub>2</sub> emission intensity per production value by 39.8% (slightly down from the previous year), compared to FY2000. In addition, the rate of renewable energy in in-house power generation increased because we minimized the use of fossil fuel in this process. Because of the proactive introduction of fuel shifts and green electricity (wind power), the CO<sub>2</sub> emission intensity of overseas plants declined by 33.6% compared to FY2010, achieving the midterm objectives earlier. Moreover, the usage rate of renewable energy including green electricity in electricity consumed overseas increased to 11%. We aim to achieve the new midterm objectives in FY2019 and later, promoting improvement in the use of renewable energy to reduce CO<sub>2</sub> emission intensity.

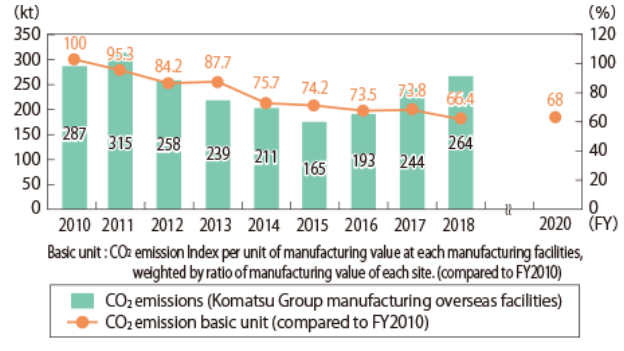
# CO2 emissions, energy indicators in production activities

Independent Practitioner's Assurance

CO2 emissions (Japan)



CO2 emissions (Overseas)



◆Fiscal Year Energy Basic Unit Index

Region	Basic Unit Index
Japan	63.6
Asia	89.0
The Americas	93.5
Europe	63.2

\*Index with base year 100

◆Fiscal year 2018 Scope 2 CO<sub>2</sub> emissions (location-based, market-based)

Standard	CO <sub>2</sub> (kt)
Location-based	423
Market-based	412

## Bangkok Komatsu's "Safe energy, Save the environment": Saving energy and reducing CO<sub>2</sub> with solar roof

Power consumption (factories only) by Bangkok Komatsu was 4,653 MWh in FY2016 and increased by 5% to 4,887 MWh in FY2017. Thailand's Board of Investment (B.O.I) set up the project for the entrepreneur to promote energy saving by installing the solar roof. With the B.O.I certificate, participating companies can deduct 50% of their invested amount for the solar system from corporate income tax. We started the phase 1 plan to install a solar roof with capacity of 853.3 kWp on the Fabrication Factory to assist fabrication and began internal solar power generation in July 2017, producing solar power of 690 MWh. In FY2018 we generated solar power of 885 MWh, up 30% from FY2017, accounting for 13.7% of power consumption (factories only) 6,492 MWh. In phase 2 of the solar roof project in phase, we are installing a solar roof with capacity of 920 kWp on the Assembly Factory (started in July 2019), and in phase 3 are going to install a solar roof with capacity of 1,412 kWp on the KOMATSU Way building, warehouse and Fabrication Factory to assist casting.



Relationship between Business Activities and the Environment -Product Life Cycle and Mitigating Climate Change-



FY2018: Installed solar roof(920.7 kW)



FY2018: solar roof under construction

Certified as a CDP Climate Change A-List Company

Komatsu was certified as a Climate Change A-list company in 2018 by CDP, an international non-profit organization that provides environmental information disclosure systems.

These certifications are awarded to companies recognized as global leaders in addressing climate change.

Every year, CDP surveys the environmental impact of several thousand companies worldwide and their business risks as well as opportunities due to the impact, and announces its independent assessment. In 2018, CDP conducted a survey on behalf of 650 institutional investors, holding assets of 87 trillion USD and 115 companies, and organizations with raised funds of 3.3 trillion USD. The companies that respond to the survey are rated from A to D- based on their answers about issues such as climate change, deforestation, and water security.

Komatsu has positioned environmental activities as one of the highest priorities for management, and in the medium-term management plan with ESG (environment, social, governance) as an important field, we remain active. In particular, in order to dramatically reduce CO2 emissions, we will promote smart construction, which utilizes an ICT construction machine and IoT to realize future sites and production through connections. We are committed to achieving high energy savings in the field, and as the top leader in the industry, we will promote activities to achieve a low-carbon society.



Reduction CO2 Emissions in Logistics

CO2 Emissions Reduction Conditions in Global Transport

**(Basic Unit of CO2 Emissions per Cargo Weight: kg-CO2/ton)**

In 2011, Komatsu began improving our data collection regarding CO2 emissions from logistics operations in our 10 major international business locations. Including the improvements that were implemented in domestic locations from 2006, we have now implemented improvements in logistics operations on a globally consolidated basis at all 25 business locations.

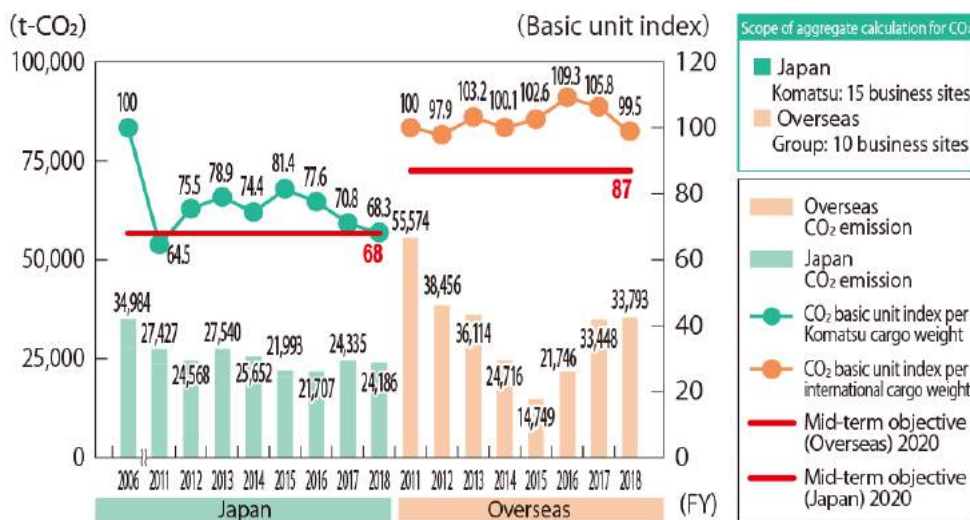
Relationship between Business Activities and the Environment -Product Life Cycle and Mitigating Climate Change-

Domestically, we have continued to focus on reducing transportation distance by increasing the utilization rate of Kanazawa and Hitachi Naka Ports (which are located adjacent to manufacturing plants), as well as improving long distance and overland transportation through the use of coastal vessels and railways (modal shift).

As a result, in FY2018 we achieved a reduction of 3.6 points in CO<sub>2</sub> emissions per cargo weight when compared to emissions in FY2017. Our overseas operations also saw an improvement in the reduction of CO<sub>2</sub> emissions, with a decrease of 6.0 points when compared to emissions in FY2017.

### Global Shipment CO<sub>2</sub> Emissions Volume and Basic Unit

Independent Practitioner's Assurance 



\* A basic unit index is an index relative to the CO<sub>2</sub> emissions per cargo weight in a reference year (2006 for Japan, 2011 for Overseas) as 100.

### CO<sub>2</sub> Improvement for Domestic Transport (Expansion of near port usage of export vehicles)

#### Promoting the Utilization of Kanazawa Port

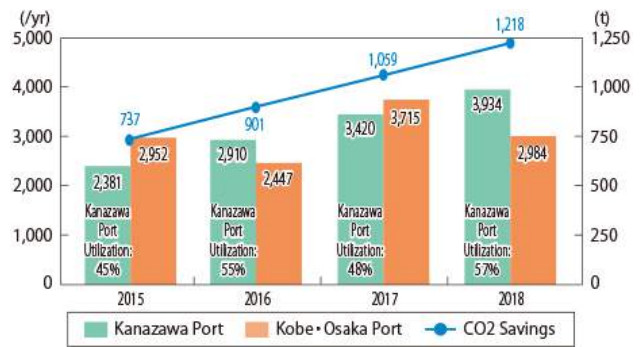
##### Background

- Based on our vision for Komatsu as a company that is rooted in the local community (Ishikawa Prefecture), we initiated full-scale use of Kanazawa Port in 2008
- We engaged in activities that contributed greatly to the community while working to reduce CO<sub>2</sub> emissions and transportation costs, and alleviate the workload of truck drivers.  
We were also able to reduce CO<sub>2</sub> emissions by 1,218 tons in FY 2018

Relationship between Business Activities and the Environment -Product Life Cycle and Mitigating Climate Change-



[Recent main body shipment (construction machines, presses) numbers and CO2 suppression]



Examples of initiatives currently underway (increase in the use of container ships)



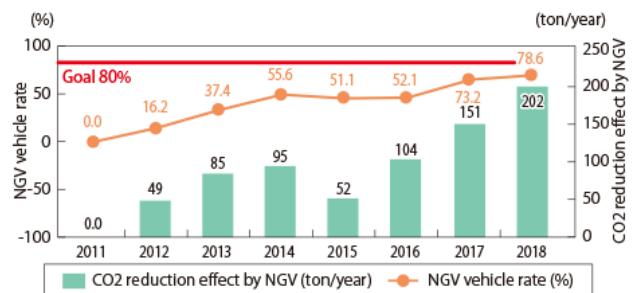
■ Super Rack Trial (bulldozer)

Overseas transportation • improvement in CO2 emissions BKC (Thailand) Expansion of use of natural gas vehicles

As reported since 2016, NGV (Natural Gas Vehicles) continue to see an increase in popularity in BKC (Thailand), an overseas group company of Komatsu. The rate of NGV conversion (since its introduction) expanded to 78.6% in FY2018.

Cumulative total CO2 reduction at BKC was 738 tons - CO2 (FY2012~FY2018)

The FY 2018 CO2 reduction amount of 201.5 (ton - CO2) / year corresponds to 21% of BKC total emissions.



## Reducing CO2 Emissions in Sales and After-sales Divisions, Main Partner Companies, and Non-manufacturing Divisions

Komatsu engages in continued efforts to assess and reduce the amounts of CO2 emissions across all areas of operations. This encompasses not just our manufacturing plants, but also our sales and after-sales service divisions, main partner companies, and non-manufacturing divisions (like the head office and Technology Innovation Center). The table below summarizes the amount of CO2 emissions and energy consumption in these divisions and companies.

### CO2 Emissions and Energy Consumption of Sales and After-sales Service Divisions, Main Partner Companies, and Non-manufacturing Divisions (FY2018)

Independent Practitioner's Assurance 

	Main sales and after-sales service divisions	Main partner companies(93 companies)	Komatsu Non-manufacturing
CO2(kt)	7.6	406.6	5.4
Crude-oil equivalent (1000k ℓ)	4.4	193.8	2.8

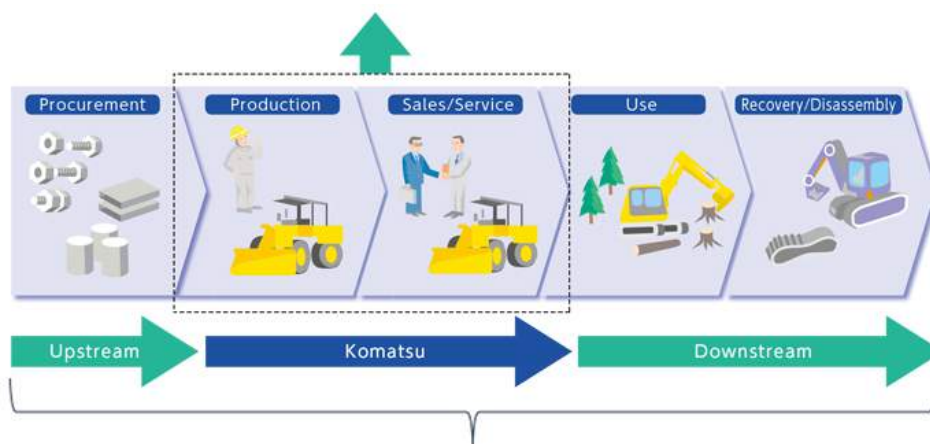
### Amount of CO2 Emissions by Scope 3

Independent Practitioner's Assurance 

In addition to CO2 emissions from production / sales / service etc., Komatsu aims to collate data regarding CO2 emissions from our entire supply chain, and reduce CO2 emissions. For that purpose, Scope 3 CO2 emissions are calculated each year.

Scope1:CO2 directly discharged from Komatsu (e.g. CO2 emissions during fuel combustion)

Scope2:Indirect emissions of CO2 due to energy use in Komatsu (e.g. CO2 emissions produced at power generation due to use of purchased electricity)



Scope3:Other indirect CO2 emissions

(Example) Upstream: CO2 etc. generated during manufacturing of purchased items

Komatsu: Transportation • CO2 emissions occurring during commuting, business trips etc.

Downstream: CO2 emissions produced when using products, such as construction machinery

Relationship between Business Activities and the Environment -Product Life Cycle and Mitigating Climate Change-

From live data gathered by KOMTRAX, Komatsu has gained perspective on the amount of CO<sub>2</sub> emissions (Scope 3 Category 11) produced by our products manufactured in reported fiscal year in operation world-wide. The calculation was performed as follows.

### Calculation of Emissions from Customer Use

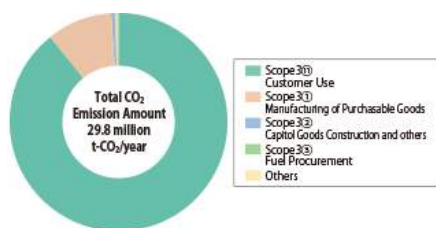
**(1) Calculate the following by each model**

CO<sub>2</sub> emissions over the life of each model  
 = (Production Volume for reported fiscal year) × (Fuel Consumption; L/kWh) × (Engine Output; kW)  
 × (Engine Life; as product life; h) × (CO<sub>2</sub> Conversion Factor)

※Data for fuel consumption (L/KWh) was collected using KOMTRAX as a representative model.

**(2) Total these values, calculated for each model in (1) above**

For others, including the 14 remaining categories, general CO<sub>2</sub> emissions was calculated. The result is shown in the pie chart below.



- \*1 LCA refers to the environmental impact assessment method for individual products at each stage, from manufacture, transportation, sale, use, disposal, to reuse
  - \*2 Scope 1 refers to direct CO<sub>2</sub> emissions by operators (ex: fuel consumption)
  - \*3 Scope 2 refers to indirect CO<sub>2</sub> emissions by operators (ex: power purchase)
  - \*4 Scope 3 refers to CO<sub>2</sub> emissions by operators from within our supply chain (ex: emissions of product during operation, emissions from suppliers, transportation, business trips and commuting)
- \* Calculating each category, the amount was calculated domestically and overseas. The amount of category (4): "Upstream Transportation disposal" was total of domestic and a part of overseas. In category (3): "Fuel Procurement", a part of data in overseas was estimated. The amount of category (13): "Downstream Leased Assets Operation" was included in category (11).

As evident from the results above, emissions during product use make up approximately 90% of total emissions.

From this, we can see that fuel-efficient products have a significant effect on reducing CO<sub>2</sub> emissions.

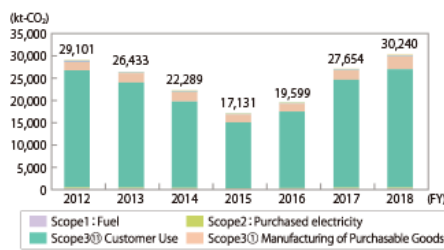
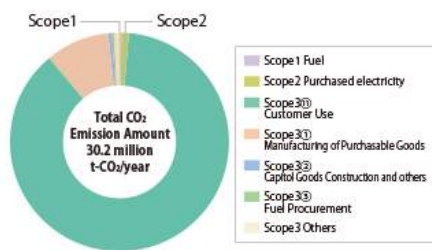
Komatsu is committed to developing hybrid construction machinery (improving fuel efficiency by 25%) and DANTOTSU products (over 10% improvement in fuel efficiency). In addition to this, we are accelerating the development and implementation of our ICT-based SMART CONSTRUCTION business.

In addition, the results of our assessments regarding LCA \* 1 (Life Cycle Assessment) can be found in the pie chart below.



Relationship between Business Activities and the Environment -Promoting Recycling-

«Reference» Pie Chart of Scope1, 2, 3



# Promoting Recycling

## Development of our “Reman” Remanufacturing Business

Our “Reman” business involves the remanufacturing of used engines, transmissions, and other key components of construction and mining equipment into “Remanned” components. After confirming that these remanufactured parts are possessed of the same quality as newly manufactured components, we inject them back into the market. We currently promote the “Reman business at 12 “Reman” Centers worldwide.

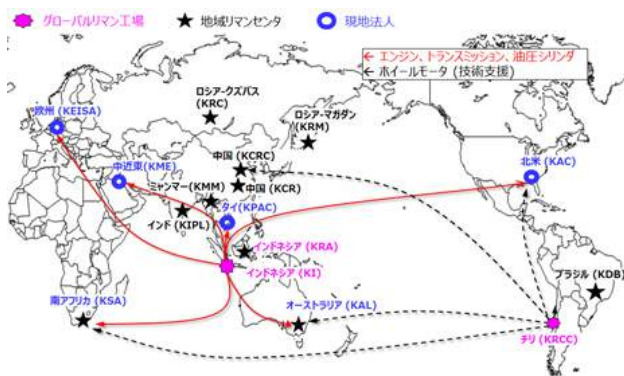
Reman (an abbreviation of remanufacturing) offers the following advantages to customers:

- Quality and performance that matches new components
- Lower cost for "remanned" components
- Reduced idle time for construction equipment because of adequate inventory of "remanned" components
- Resource conservation and waste reduction through reuse and recycling of components

We established PT Komatsu Indonesia (KI) as a global base, which supplies key components for large-size construction machinery and hydraulic cylinders like engines and transmissions. We also established PT Komatsu “Reman” Center Chile (KRCC) in Chile, which supplies components for electric dump trucks.

Additionally, Komatsu established PT KOMATSU REMANUFACTURING ASIA (KRA) in Indonesia to recycle all components of large-size construction machinery exclusively for the Indonesian market.

We have also established individual “Reman” centers for countries that are not part of our global supply chains (China, Russia, India and Brazil, Myanmar etc.).



Reman Factories and Centers map



Reman center in Komatsu Indonesia plant

## Providing Reman-related Information

We have constructed a system called “K-WINS”, which shares technical information about “Reman” through an interconnecting network (“Reman-Net) of Komatsu “Reman” centers around the world. The data acquired from this system allows us to effectively develop our global “Reman” operations.

IC tags and two-dimensional bar codes are used to manage each item's remanufacturing history, and to track quality and durability information. This important information is reported to the Group, to help develop components with optimal service life.

## Future Steps

To further increase the reuse rate of used components, the Komatsu Group is reducing the number of disposed parts by:

- Developing parts for remanufacturing, oversized parts, etc
- Developing recycling-related technologies (assessment and measurement for reuse, remanufacturing worn-out parts, cleaning, heat treatment, etc.)

to reduce waste components, and thereby further increase reuse and recycling activities.

## Reman Process



1. Receiving inspection



2. Cleaning



3. Disassemble



4. Parts inspection



5. Component Remanufacturing



6. Assemble



7. Performance test



8. Paint



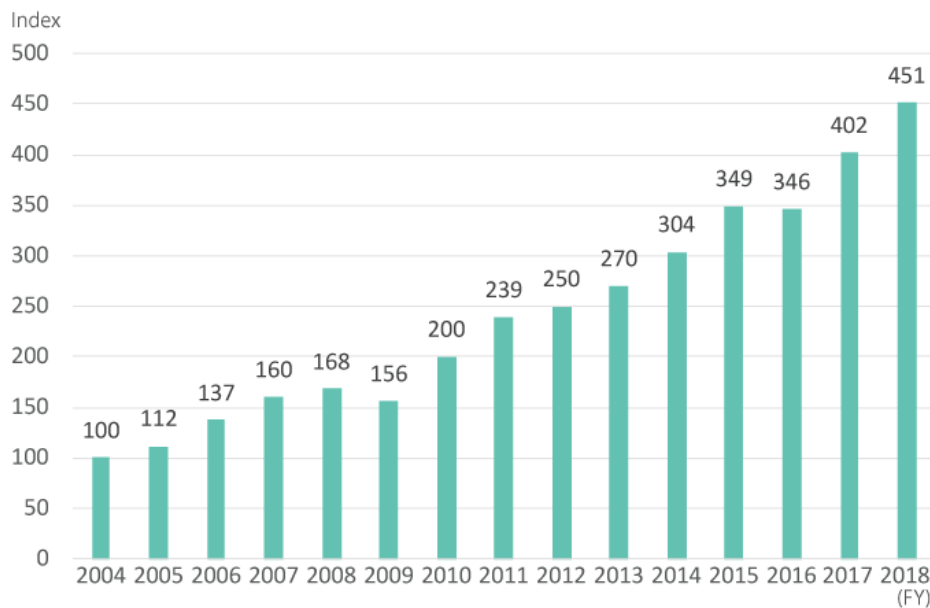
9. Factory Shipment



10. Core return



## Changes in Reman Sales (base FY2004 = 100)



## Activities to Effectively Utilize Resources in Production

### 1. Waste

Komatsu promotes activities to reduce waste generation from its production activities while also implementing "zero emission" activities to recycle and effectively use the generated waste.

While we sought to reduce the volume of waste by thoroughly implementing sorting and turning waste into valuable commodities, domestic waste generated per unit of production increased compared with the previous year due to an increase in waste sand disposal volume at our metal-casting plant, and the temporary generation of waste such as used tires. However, with a recycling rate of 99.7%, the target value was maintained.

Overseas waste generated per unit of production recorded a 10.4% reduction from FY2010 levels with thorough waste sorting efforts, and medium-term targets are achieved ahead of schedule.

A recycling rate of 97.3% was recorded, marking two consecutive years during which the 2020 target value was achieved.

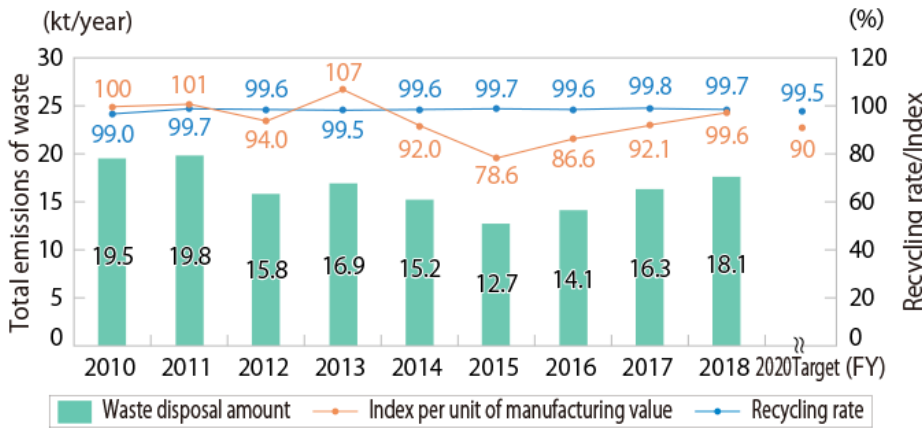
From 2019 onwards, we will promote reduction activities primarily at foundries in Japan and overseas to meet new medium-term targets.

	Sector	Base FY	Objective FY	Target Value
Reduction of Waste Generated Per Unit	Domestic	2010	2020	Over 10%
	Overseas			
Maintenance and Improvement of Recycling Rate	Domestic	-	Maintain	Over 99.5%
	Overseas	-	2020	Over 95%

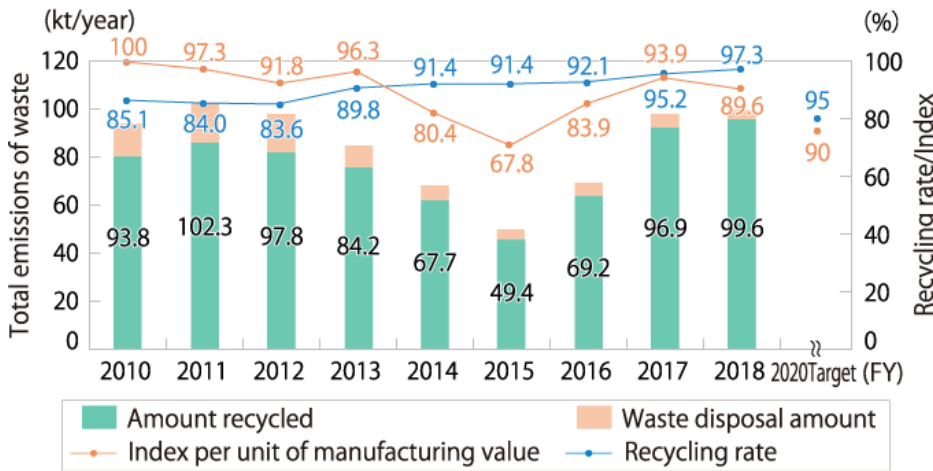
# Waste indicators in production activities

Independent Practitioner's Assurance 

Amount of Waste Generated in Japan (Data coverage: Komatsu Ltd. and the Komatsu Group manufacturing facilities in Japan)



Amount of Waste Generated in overseas (Data coverage: The Komatsu Group manufacturing facilities in overseas)



## Examples of Waste Reduction Initiatives

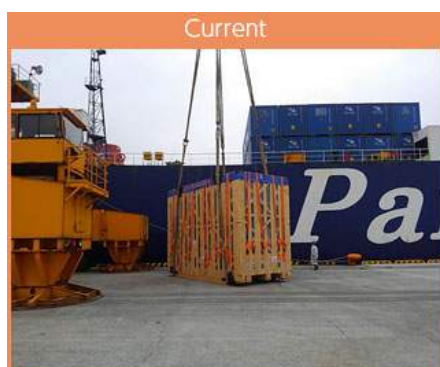
### Activities to reduce the amount of wood packaging materials for overseas used at the Kanazawa Plant

The Kanazawa Plant produces body forming presses for automotive manufacturers. The plant mainly transports its goods overseas, and when shipments weighing as much as several dozen tons are packaged, packaging made from wood materials has conventionally been used. To reduce the amount of wood resources used from the perspective of conserving the global environment, the plant is continually examining the packaging specifications of all transportation companies and determining whether non-wooden packaging materials can be applied to the products shipped from plants.

Even for heavy cargo, by shifting the packaging from wooden materials to steel, we have reduced the amount of wood being used. However, depending on the customer, there are often cases where the use of conventional wood based materials is requested. We consider possibilities to determine whether even in those cases, packaging specifications can be met while reducing the use of wood

## Relationship between Business Activities and the Environment -Promoting Recycling-

materials to the minimum. Due to built-to-order items, the shapes of products can vary wildly, but by achieving improvements such as taking cues from how products are suspended during the manufacturing processes, we were able to develop new packaging specifications. We will continue to make improvements that give adequate consideration to the global environment.



<Tie the package completely to hoist>  
Because of the heavy load, the wood material on the bottom needs to be stronger.



<Directly hoist the product>  
Set a window on the roof of the packing-crate wood to hoist the product by crane, resulting in the reduced use of the wood material on the bottom.

## Reduction in Wood Usage (-1,000kg / case)

Shape	Dimensions (cm)			(Kg)	Weight of Packaging Materials (Kg)
	L	W	H		
Conventional packing	570	280	400	51,000	4,000
Improved packing	530	290	350	50,000	3,000
Difference	-40	10	-50	-1,000	-1,000

## 2. Water Resources

In FY2016, we set new mid-term targets for water usage in our domestic and overseas manufacturing facilities and launched initiatives to reduce water consumption.

Domestically, we have managed to reduce water use per unit of manufacturing by 51.3% compared to FY2010 by reducing waste through the re-use of water within processes and daily management with a focus on sites in the Hokuriku area that use a lot of groundwater. In doing so, we have achieved our medium-term target ahead of schedule.

Overseas we also achieved our medium-term target ahead of schedule, managing to reduce water use per unit of manufacturing by 34.7% compared to FY2010 by recycling through the purification of process wastewater and by reducing waste.

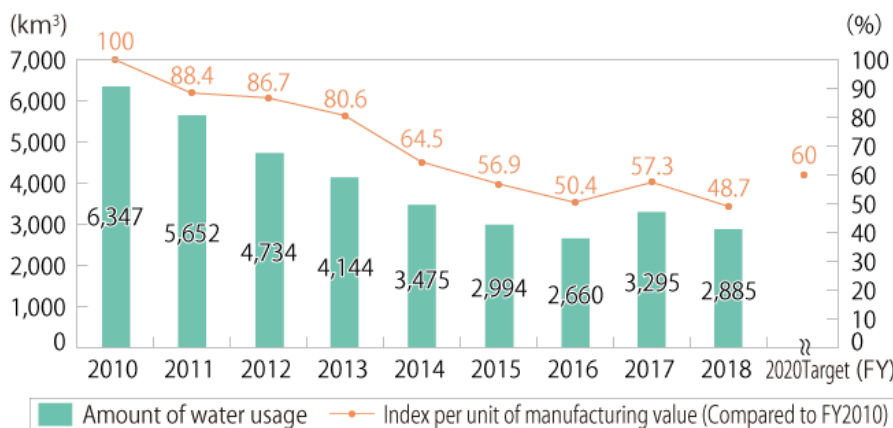
From FY2019 onwards, we will promote further water usage reduction activities domestically and overseas to meet a new medium-term target.

	Sector	Base FY	Target FY	Target Value
Reduction in Water Used Per Unit of Manufacturing	Domestic	2010	2020	△40%+
	Overseas			△10%+

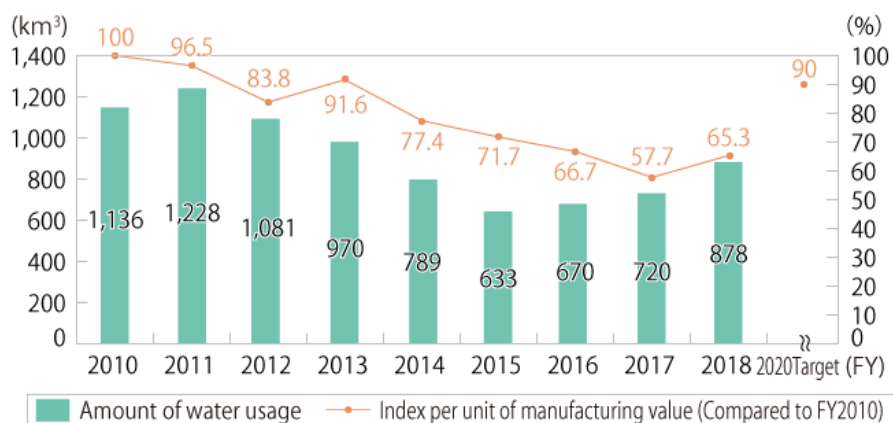
# Water Use Indicators in Production Activities

Independent Practitioner's Assurance 

Amount of Water usage in Japan (Data coverage: Komatsu Ltd. and the Komatsu Group manufacturing facilities in Japan)



Amount of Water usage in Overseas (Data coverage: The Komatsu Group manufacturing facilities in overseas)



## Examples of Water Usage Reduction Initiatives

Using a pure water production system at the Osaka Plant, activities to reduce the volume of water use (increased use of recycled water)

At the Osaka Plant, a sand filter has been installed to recycle wastewater from production processes since 2004, and activities to reduce the amount of water used have been pursued over that time.

The recycled water is used as cooling water for heat treatment facilities and machining facilities as well as makeup water for paint booths.

In 2012, a cogeneration power generating system (gas engine) was installed as a part of efforts to reduce electricity consumption. The generating system performs peak electricity control and is also equipped with a boiler to reduce electricity usage by effectively utilizing waste heat. As a result, the system uses a lot of water. We wanted to use recycled water for the system, but as water quality control items such as total hardness and concentration were high, water was supplied through the water mains without using recycled water. As an activity to further reduce its water usage, the Osaka Plant considered supplying recycled water to this system.

Relationship between Business Activities and the Environment -Promoting Recycling-

As a result of the consideration, in 2017 a pure water production system equipped with an ion exchange resin tower that is able to remove the hardness components was installed.

In FY2017 and FY2018, about 3,000m3 of water was supplied through the pure water production system annually, and water usage of the overall Osaka Plant was reduced by 3%.

Items not conforming to the required water quality are treated with the pure water production system

Item	Unit	Required Water Quality Standard Values			Recycled Water Quality	Compatibility	Advanced Treatment System Water Quality	Compatibility
		Waste Heat Boiler	Cooling Water Supply (Refrigerator Air Conditioner)	Cooling Water Supply (Gas Engine)				
		Water Softener						
pH	pH	-	6 ~ 8	6.5 ~ 8.5	7.1	Pass	7.6	Pass
Electrical conductivity	mS/m	50	30	40	31.1	Fail	7.5	Pass
Alkalinity (pH4.8)	mg/L	-	50	150	84	Fail	19	Pass
Total hardness	mgCa CO3/L	-	70	100	110	Fail	25	Pass
Calcium hardness	mg/L	-	50	-	82	Fail	20	Pass
Iron	mg/L	0.3	0.3	1	0.1	Pass	<0.05	Pass
Copper	mg/L	-	0.1	-	<0.05	Pass	<0.05	Pass
Ammonium ions	mg/L	-	1	-	<0.1	Pass	<0.1	Pass
Chloride ions	mg/L	-	-	100	29	Pass	6	Pass
Ionic silica	mg/L	-	-	100	30.7	Pass	6	Pass
Sulfate ions	mg/L	-	30	50	19	Pass	4.1	Pass
Free carbon dioxide	mg/L	-	4	-	6	Fail	0.9	Pass
Residue on evaporation	mg/L	-	-	400	140	Pass	<50	Pass

Pure Water Production System



## Theme 2 : Developing People

068 Personnel Policy and Performance Appraisal System

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074 Diversity Initiatives

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079 Enhancing Work-Life Balance

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083 The KOMATSU Way

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086 Employee Training Structure

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088 Strengthening Our "Gemba" Capability

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091 Brand Management Initiatives

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# Personnel Policy and Performance Appraisal System

Here at Komatsu, we consider many aspects of our business to be valuable assets. Goods, money, information, and time are all irreplaceable facets of our day-to-day operations. However, the one resource that stands above all others in terms of value would be our employees. We are proud to maintain a culture that places our people at the forefront of our priorities, recognizing the importance of their roles in maintaining the quality of our products and the reputation of our company. Komatsu is thus dedicated to the development of our workforce, striving to foster an engaging work environment that provides opportunities for creativity and challenges to stimulate growth, all the while building on a relationship of mutual trust with our employees.

## Global Personnel Policy

Komatsu is acutely aware of the differences pertaining to history and culture for each of the regions within which it operates. We are thus engaged in the creation of a personnel management system that tailors to the unique needs and circumstances of each region, whilst maintaining compliance with a set of basic policies as outlined below:

- a. We shall respect each employee's human rights, personality, individuality and legally-protected privacy;
- b. We shall respect diversity and treat and appraise each and every employee in a fair and impartial manner. We shall not discriminate against any employee on the basis of race, ethnicity, color, sex, sexual orientation, gender identity, age, religion, national ancestry, disability, marital status or other legally protected status. We shall vigorously promote equal opportunities for employment;
- c. We shall give due consideration to work-life balance and physical/mental health, and endeavor to provide the employees with workplaces where they can effectively accomplish their tasks with satisfaction and pride. We will not tolerate any kind of harassment, including sexual harassment, violence or other abusive conduct, in or outside the workplace;
- d. In designing and implementing Komatsu policies on employment conditions (such as wages, fringe benefits, performance appraisal, promotions), we shall assure that such policies are, and are understood to be, fairly and clearly implemented. Such policies shall be accurately communicated to employees and, to the extent practicable, made open and accessible;
- e. We shall comply with all applicable laws and regulations governing employees' rights and faithfully accommodate, whenever applicable, conversations or discussions with employees or their representatives;
- f. We shall not tolerate child labor or forced labor; and
- g. We shall offer terms and conditions of employment that are sufficiently competitive in their respective regions.

**\*Additional notes on Item b:**

-We implemented e-learning on LGBT issues for the middle management.

-“Any action violating human rights (sexual harassment or other harassment related to pregnancy, childbirth, parenting and nursing care)” is specified as grounds for disciplinary action.

## Personnel System that Accurately Recognizes Employee Abilities and Achievements

Komatsu recognizes the importance of providing an engaging workplace environment that recognizes and accurately rewards the achievements of its employees. This allows our people to take pride in the work that they do, motivating them to strive for greater

## Personnel Policy and Performance Appraisal System

heights within and without the workplace. To that end, we have incorporated an advanced system of evaluation that disregards age, gender, or nationality while assessing individual performance and abilities in order to provide a framework for fair recompense.

## Fair and Appropriate Evaluation

The most important aspect in the creation of a workplace that promotes wellbeing and effective working is the fair treatment of employees. As mentioned above, Komatsu's personnel management system accurately evaluates our employees, granting recompense based solely on merit. This system of assessment is enforced through multiple channels, such as evaluation training for both management and lower-level employees. An evaluation committee has also been established that works closely with labor unions in order to confirm that evaluations are fair and appropriately conducted. Finally, Komatsu provides individual feedback on evaluations to employees at both management and non-management positions, and has set up a consultation office through which employees can express complaints and concerns.

## Condition of Labor Unions

Having signed the United Nations Global Compact, Komatsu recognizes that freedom of association and the right to collective bargaining are intrinsic human rights that must be respected. Our engagements with labor unions thus reflect this commitment, showcasing our dedication to ensuring the best for our people.

We have a labor contract with the Komatsu Labor Union, which is organized by approximately 10,500 of our employees across 8 of our Japanese branches and is a member of both the "All Komatsu Workers Union" and the "Japanese Association of Metal, Machinery, and Manufacturing Workers". 13 of our consolidated subsidiaries and affiliates in Japan have labor contracts with a labor union that has joined the "All Komatsu Workers Union", making up a total of approximately 6,400 employees.

In addition to this, Komatsu continues to comply with legislation related to labor rights, while responding in an honest and transparent manner to all dialogues and discussions with individual employees and their representatives.

## Creating a vibrant workplace with rewarding jobs

The Komatsu Group regularly conducts an employee awareness survey, seeking to understand how its employees feel about and what they expect for their jobs, workplaces and company management in order to create vitalized workplaces. The Group aims to offer workplaces that enable its employees to work more actively by identifying advantages and challenges surrounding Komatsu, which will be considered when implementing human resource initiatives and employee training programs.

### Overview of employee awareness survey in FY2018

Number of respondents	Employees of Komatsu and its Group companies in Japan, 97.1% responded
Objectives	To understand how the Komatsu Group employees feel about their jobs, workplaces, and supervisors; analyzing current issues in order to consider measures to implement in the future
Survey overview	94 questions on items including the degree of employee satisfaction with job, office environment and personnel management system, along with employee awareness of the KOMATSU Way
Methodology	As a general rule, anonymous web survey used (paper-based survey for field workers)

## DATA

\* Above data are on the non-consolidated basis except item (2).  
Numbers of employees for item (11) are as of April 1 and all other numbers shown are as of the end of the year, except as otherwise noted.

### (1) Number of employees (Non-consolidated basis)

	FY2016	FY2017	FY2018
Total	10,371	10,465	11,537
Male	9,203	9,264	10,175
Female	1,168	1,201	1,362

### (2) Number of employees (Consolidated basis)

	FY2016	FY2017	FY2018
Consolidated	47,204	59,632	61,908
Non-Japanese (consolidated)	29,577	40,397	42,349

### (3) Average age

	FY2016	FY2017	FY2018
Total	38.9	39.3	39.6
Male	38.8	39.3	39.7
Female	38.9	38.9	39.3

## Personnel Policy and Performance Appraisal System

## (4) Years of continuous employment

	FY2016	FY2017	FY2018
Total	14.6	14.1	14.3
Male	14.8	14.4	14.7
Female	12.4	11.8	11.9

## (5) Annual total remuneration (average)

	FY2016	FY2017	FY2018
Total	7,162,627	7,387,475	7,608,424

\*Minimum wages set by age

## (6) Number of employees by age

	Total	Male	Female
Under 30	2,309	1,936	373
30-39	3,675	3,402	273
40-49	3,079	2,679	400
50-59	2,474	2,158	316
Total	11,537	10,175	1,362

## Personnel Policy and Performance Appraisal System

## (7) New graduates employment

Year (April)	College graduate			Junior college graduate			High-school graduate		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
2017	166	137	29	18	14	4	72	43	29
2018	187	163	24	26	17	9	96	68	28
2019	195	169	26	25	22	3	132	99	33

## (8) Mid-career employment

	Total	College male	College female	Other male	Other female
April 2016- March 2017	24	5	11	4	4
April 2017- March 2018	44	25	12	4	3
April 2018- March 2019	140	55	15	59	11

## (9) Employee turnover (April 2018-March 2019)

	Total	Male	Female
Number of employee turnover	105	82	23

## Personnel Policy and Performance Appraisal System

## (10) Retention of new employees

	Male	Female
New employees (April 2016)	187	47
Enrollment (April 2019)	181	43

Turnover rate: 4.3%; 6 males, 4 females

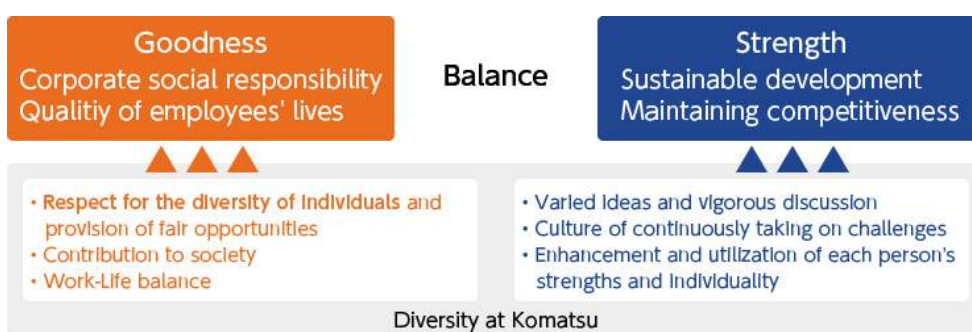
## (11) Diversity of management

	Male	Female	Female Percentage	Foreign employees
Management position	1,661	126	7.1%	10
General managers	388	10	2.5%	0
Directors and officers	49	3	5.8%	5
Executive officers	46	2	4.2%	5
Managers, directors and officers	1,710	129	7.0%	10

## Diversity Initiatives

Komatsu recognizes diversity as a significant corporate asset, and respects the basic human rights of every employee while striving to offer career development opportunities that enable each individual to fully demonstrate their abilities with a sense of fulfillment and pride. We also make efforts to incorporate the integration of both individuality and diversity into the sustainable growth of the entire company.

### Komatsu's Approach to Diversity



#### \* Respect for personality diversity

We shall respect diversity and treat and appraise each and every employee in a fair and impartial manner. We shall not discriminate against any employee on the basis of nationality, race, ethnicity, color, sex, sexual orientation, gender identity, age, religion, national ancestry, disability, marital status or other legally protected statuses. We shall vigorously promote equal opportunities for employment; (From "KOMATSU'S WORLDWIDE CODE OF BUSINESS CONDUCT")

## Promoting Globalized Management

### Approach and Goals

With the acquisition of JOY Global Inc. to the Komatsu Group as Komatsu Mining Corp. in 2017, a total of two thirds of our employees within the company are now non-Japanese. Komatsu is promoting the localization of management, and most of our major subsidiaries are already managed by local personnel. We think it necessary to establish a system in which effective and efficient discussions are possible globally. Komatsu is nurturing employees who are hired by our overseas subsidiaries and spend their entire career with Komatsu in order for them to become business leaders at those subsidiaries in the future.

### Systems and Status in FY2018

#### ■ Human Resource Development

Komatsu is currently providing the following two types of training, aiming to nurture both local employees in executive positions at our overseas subsidiaries and those in Japan to become candidates for top management.

1. Global Management Seminar Komatsu has started providing Global Management Seminars mainly consisting of lectures and discussions on Komatsu's management policy, the KOMATSU Way, and business strategies to local employees in executive positions at our overseas subsidiaries since 2006. In 2018, the Global Management Seminar was held in September, with a total of 12 local employees in executive positions from our overseas subsidiaries in 9 countries (the U.S., Brazil, Russia, China, UK, Germany, Namibia, Thailand and Australia). Through this training, the participants deepen their understanding of the KOMATSU



## Diversity Initiatives

Way and global management strategies, and they are expected to become top management who implement operations rooted in the KOMATSU Way.

## 2. 2. Global Management Training

Komatsu provides Global Management Training with the objectives of nurturing candidates for senior management positions who play an active role globally. This training is not only for Japanese top managers, but also for those in our overseas subsidiaries, and we send them to business schools overseas for short-term training. In 2018, a total of 10 individuals received training in business schools in the U.S., UK, France, and Switzerland.

## ■ Management System

In order to effectively promote global management, Komatsu runs various global meetings, including the Komatsu Global Executive Meeting convened for the top management of all Komatsu Group companies in Japan and overseas, management committees for each region and business area, and other global meetings for specific purposes, such as the Quality Meeting, Occupational Safety Meeting, Health Meeting, Legal Meeting and Human Resources Meeting.

Since the senior management of our main overseas subsidiaries were assigned to the Global Officer System established in 2016, they play a significant role not only as the senior management in each region, but also as executive officers in the Komatsu Group through involvement in these important meetings.

## DATA

		FY2017	FY2018	FY2019
Number of Executive Officers	Total	55	50	50
	National top managers out of total executive officers	5	5	5
Number of Global Officers	Total	27	29	26
	National top managers out of total executive officers	16	18	18

## Promoting Women's Careers

### Approach and Goals

Komatsu is promoting measures for female employees including stimulate employment and capacity building of female employees, and development of a favorable environment for continuous career development after their maternity leave. Speaking only of Komatsu on the non-consolidated basis, a female executive officer was assigned for the first time in April 2011 and a female director was appointed for the first time in June 2018. However, we are aware that the relatively small number of female managers, compared with male managers, is an issue that we particularly need to improve and we should actively promote female employees to more responsible positions of higher authority, including promotion to managers, and not just supporting work-life balancing events such as giving birth, childcare and nursing care with work. Komatsu has established the target of raising the rate of female managers to 10% by April 2021 on the non-consolidated basis, and each of the group companies in Japan and overseas set its own target on the rate of female employees and managers, taking a variety of measures to achieving this target.

## Diversity Initiatives

## System and Status in FY2018

In March 2019, we held a Diversity & Inclusion Development Seminar for female managers of Komatsu and its overseas subsidiaries, in which 15 employees from 12 countries participated. In this seminar, those that participated deepened their understanding of the history of Komatsu, the KOMATSU Way and management strategies. We expect them to be the leaders of promotion of diversity initiatives in respective companies.

Also in Japan, as a measure to nurture female employees, we have held a career plan training in which participants think about their future and their work styles. The CDP (Career Development Program), in which female employees formulate their mid to long-term career plans discussing with their supervisors has also been implemented since 2015. Starting from 2016 onward, networking/training workshops for female employees have been held jointly with other companies in the same manufacturing industry. We believe that measures to promote the active participation of female employees and those with time and physical constraints will lead to the development of a system and the creation of an environment in which every employee can work comfortably with their full potential, and thus we continue promoting these measures across the Komatsu Group.



Scene of DIDS training

## DATA

	FY2017	FY2018	FY2019
Number (ratio) of women employed	1,281(12.0%)	1,321 (12.2%)	1,463 (12.3%)
Number (ratio) of women in management positions	94(5.5%)	109(6.2%)	129(7.0%)
Number (ratio) of women in executive positions	2(4.2%)	2(4.3%)	2(4.2%)
Number (ratio) of women hired	29(17.5%)	24(12.8%)	26(13.3%)

\* Data for Komatsu Ltd. (non-consolidated). The numbers and rates are for newly hired university graduates. Data as of April 1.

## Support for balancing childcare, nursing care and medical treatment with work

Flexible work styles are spreading, where employees who are involved in childcare or nursing care can telecommute or take advantage of a short-time work system. As part of its efforts to support the balancing of childcare and work, the KOMATSU Way Global Institute, in-house training center in Komatsu, Ishikawa Prefecture, provides a day-care center service and since 2016, we have been hosting a networking event on the 19th every month cooperating with labor unions as a place for communication among employees

## Diversity Initiatives

who are involved in childcare. In addition, at the headquarters, we invited employees' children for a Work Site Tour which provided work-experience opportunities. With respect to nursing care, we hold seminars conducted by experts, providing opportunities for employees to develop their mental attitudes toward nursing care and think about balancing it with work. Since 2018, we hold monthly consultations for each employee with an expert from outside the company, providing support in line with the situation of each employee, and we also publish a Nursing Care Column via our in-house portal site, taking measures to help employees to comprehend information related to nursing care and its support systems. Moreover, from the standpoint of health and safety, a consultation service is set at each office in which employees can seek consultation on balancing medical treatment with work and developing a work environment where employees who need treatment can work with safety and security.



The day-care center at the KOMATSU Way Global Institute

## Employing Persons with Disabilities

### Approach and Goals

Komatsu actively seeks to employ persons with disabilities across the Group. Our goal is to achieve the employment ratio of 2.5% on a consolidated basis by 2021 for the Group in Japan (the current statutory employment ratio is 2.2%).

In March 2008, Komatsu established the Business Creation Center (BCC) within the Human Resources Department in Japan as a dedicated organizational entity for promoting the hiring of persons with disabilities. Persons with mental or developmental disabilities are employed by the BCC in eleven business units in Japan. Advisors are assigned to each business unit to provide training and advice on daily tasks. Each BCC staff member meets with an advisor every six months to discuss goals, instead of simply handling a delimited set of tasks. Linking salary to individual performance assessments, we encourage employees with disabilities to work on their goals toward achieving independence and self-reliance. Through these efforts Komatsu is not merely focused on achieving a targeted employment ratio. Rather, it is seeking to create a workplace that provides a sense of fulfillment for all individuals, where employees with disabilities work alongside other staff members.

### Status in FY2019

As of April 2019, the employment ratio of persons with disabilities is 2.55% (non-consolidated basis). With regards to BCC, there are 125 people working at 11 business units. With the expansion of its organization, BCC has taken on matters that had previously been outsourced, as well as tasks that had been taking up time and effort internally, thereby contributing to efficiency and cost cutting for the company as a whole.

## Diversity Initiatives

## DATA

	FY2017	FY2018	FY2019
Employment ratio of persons with disabilities	2.68%	2.50%	2.55%
Number of BCC locations	10	10	11
Number of BCC staff members	103	101	125

\* Data for Komatsu Ltd. (non-consolidated). As of April 1st.

## Promoting Hiring of Retired Employees

### Approach and Goals

As the aging of Japanese society accelerates, Komatsu is committed to maintaining its efforts to hire more elderly workers. Komatsu(non-consolidated) introduced a re-employment program in 2006 and revised this system from April 2013 so that as a general rule all those who desire to do so can work until the age of 65. We also established a Second Career Support Program for employees who desire to play an active part outside the group, and provide training opportunities, paid leave and monetary aid.

## DATA

	FY2016	FY2017	FY2018
Number of retired employees	211	184	185
Number of retired employees who were rehired by Group companies	173	146	155

## LGBT Compatibility

### Concept and system

In "KOMATSU'S WORLDWIDE CODE OF BUSINESS CONDUCT" October 2017 revision, we stipulated the prohibition of unfair discrimination against sexual minorities (not only nationality, race, religion, age, sex, presence or absence of disability, but also sexual orientation and gender identity) as sexual harassment including discriminatory remarks subject to disciplinary action. In addition to implementing a number of initiatives, such as setting up an in-house counseling desk for LGBT individuals, the certification of same-sex partnership and expansion of scope of welfare benefits, we also worked to promote understanding of LGBT to all employees through a number of approaches like e-learning.

# Enhancing Work-Life Balance

## Past Endeavors and Status in FY2018

The maintenance of a healthy work-life balance is an integral component in bringing the best out of our employees. Studies have shown that individuals who are able to nurture a fulfilling personal life alongside their work commitments are both more motivated and driven, while being able to draw out the full potential of their abilities. With this understanding in mind, Komatsu is working to reduce the total number of required working hours for our personnel by setting up a number of work-life balance systems to improve workplace sustainability.

We are currently engaged in co-operative undertakings with labor unions in order to formulate specific quantifiable targets to reduce the total number of working hours for our employees. We establish commendable goals of less than 2,100 working hours per year, along with the provision of an average of at least 18 days of paid leave per year for each employee. In addition, based on compliance with the Article 36 Agreement or agreement on overtime, we are working to realize an efficient way of working. As of FY2018, we have started an "interval system" that enforces a minimum of 10 hours of rest following long periods of work in order to promote a "safe and healthy" manner of working.

In addition, we consider the arrangement of systems for child-care leave and short working hours to be a requisite in creating a sustainable work environment. Our efforts to promote work-life balance in the workplace have not gone unnoticed, and in 2007, we were certified by the Japan Ministry of Health, Labour, and Welfare with the "Kurumin" symbol. This prestigious accolade marks us as a company that supports the development of the next generation, and has encouraged us to bolster our already significant commitments.

In addition to child-care leave and the reduction of working hours, we launched the "Panel on Fostering Future Generations", as well as the "Research Group on Solutions against Low Birthrate and Longevity". We have also continued to work on improving the reach and extent of our child-care support systems by extending periods of child-care leave (to a maximum of three years) in 2011. In 2018, we further expanded the system by establishing a leave system that caters to spousal relocation.

Our personnel evaluation systems continue to be improved upon, and we now offer options such as temporary part-time work for employees raising children and personal goal-setting in accordance to employee working conditions. In doing so, we provide realistic motivation for employees, ensuring the continuance of their careers alongside the raising of their children.

Komatsu is also committed to providing aid to employees who are providing nursing care for their family members. In 2013, we introduced an allowance for employees on family-care leave as a means of financial support, and in 2014, we rolled out a home teleworking option for employees who are required to stay home in order to take care of children/other family members. With these systems and initiatives, we will further enforce our initiatives to balance work with home life of each employee.

## Employee Training Structure

## DATA

\* Information on this page is non-consolidated with the exception of certain programs, which encompass not only Komatsu Ltd. but also our subsidiaries in Japan.

## Main Programs and Measures Designed to Enhance Work-Life Balance

Programs and Measures		Content
Child-care support	Child-care leave program	Available for a maximum of three years from the birth of the child to the time the child enters nursery school. Also available for a maximum of three years for children up to the third grade of elementary school in cases where a spouse is transferred, etc.
	Part-time work	Shortening of working hours by a maximum of three hours per day to allow for care of children up to the third grade of elementary school
	Telework program	Option to work at home in order to care for children up to the third grade of elementary school
	Allowance toward the cost of using child-care services	Allowance toward the cost of childcare for infants up to age two before entering nursery school (10,000 yen/month)
	Child-care leave	Five days for nursing care of one child up to the third grade of elementary school, and ten days for the second child onward (paid leave) Allowance granted to cover the cost of using child-care services
Family-care support	Family-care leave program	A maximum of three years available for employees taking care of family members (possible to take in installments)
	Part-time work	Shortening of working hours by a maximum of three hours per day (possible to take in installments)
	Telework program	Option to work at home for a maximum of three years in order to provide care for family members
	Family-care leave	Five days per year for attending to one family member in need of nursing care, and ten days for the second family member onward (paid leave)
Other types of leave	Life support leave	Can be used as sick leave, pregnancy leave, child-care leave or for care of family members. An employee may add five new days of accumulated leave per year. A maximum of 40 days of unused annual leave may be accumulated. Child-care leave may be used for school events for children aged up to third grade in junior high school
	Flexible leave for refreshment	Provided to encourage employees to take five consecutive days of leave for mental and physical refreshment  Employees receive an additional five days of annual leave and a travel voucher upon completion of their 15th, 25th and 35th year of continued service
	Volunteer incentive program	Long-term paid leave of up to two years, or short-term paid leave of 12 days per year
	Spousal transfer occupational leave system	Acquisition for up to three years per spousal transfer (Acquisition up to one per employee)

## Employee Training Structure

## Flexible Working Style

- Flexible working hours (core time; 11:00 am-2:45 pm)
- Part-time work (child and other family-care)
- Half-day paid leave
- Maximum of five consecutive days of paid leave for refreshment
- System and facility for supporting child-care (nursery payment and use of in-house nursery)
- Discretionary work system (employees in development, design and R&D section)
- Telework program

## Various Incentive Programs

- Subsidizing the expense of taking a certification course
- Job posting system
- Studying in domestic college or study abroad program
- Employee awards program for distinguished achievement
- In-house language school and subsidizing the expense
- Stock option (directors, officers and some executives)

## Work-Life Balance Data

## Parental leave

	FY2016	FY2017	FY2018
Pregnancy leaves	57	59	63
Child-care leaves (total)	98	120	137
Child-care leaves (paternal leave)	10	15	23
Child-care leaves (within one week leave)	1	0	1
Return and retention rates	100%	97.5%	98.6%



## Employee Training Structure

## Family-care leave

	FY2016	FY2017	FY2018
Family-care leaves	4	4	7

## Paid vacation

	FY2016	FY2017	FY2018
Days granted	20.0	20.0	20.0
Days taken	19.2	19.4	19.5
Ratio	95.8%	96.8%	97.5%

## Volunteer Time Off (VTO)

	FY2016	FY2017	FY2018
Number of VTO users	95	71	92
VTO in long-term	0	0	0

# The KOMATSU Way

## Approach of The KOMATSU Way

The KOMATSU Way is a statement of values and standards that all workers at every level of the Komatsu Group are expected to meet and uphold. The KOMATSU Way is a written statement of our corporate strengths, beliefs that support those strengths, the basic attitude of mind and perspective, and a manner of action (style), which our predecessors created based on the founder's spirit, throughout the history of our growth and development. We aim to spread this knowledge to all employees and maintain it into the future.

## System and Status in FY2018

The KOMATSU Way finds its roots in the corporate strengths that Komatsu has cultivated over time, culminating in a system of integrity and strength that is disseminated to group companies on a global scale. This propagation is achieved through the KOMATSU Way Global Institute, which conducts various publication and human resource development activities.

Employee understanding of the KOMATSU Way is deepened via training sessions and the creation of opportunities for exposition and group debates. We foster interpersonal communication between employees at such sessions to minimize generational gaps, allowing for a more effective "trickle-down" spread of this knowledge. We have also considered the intrinsic differences of foreign cultures, and have worked to craft the KOMATSU Way in a manner that is both easy to understand and relevant for the international community at large. This allows us to promote the KOMATSU Way in domestic and foreign settings, allowing for uniformity across the group.

In 2018, we created the third edition of the KOMATSU Way. We improved the contents so values and ways of thinking become easier to understand, increasing the number of overseas case studies and adding expository writing detailing Komatsu's approach, in light of the increased ratio of workers overseas and the change of Komatsu's business environment.

In FY2018, training on the KOMATSU Way and Total Quality Management (TQM) was held in Brazil and Thailand for the first time, and in Chile, our strategic market. Because of the integration of KMC (Komatsu Mining Corp.) in FY2017, the number of employees overseas increased further and the need for Komatsu employees to understand more about Komatsu's thinking has increased. Therefore, we continue overseas training to globally establish the KOMATSU Way and TQM. We believe that through these activities, we will be able to foster employees who practice the KOMATSU Way and pass it on to the next generation, leading to the sustainable growth of the entire Komatsu Group.

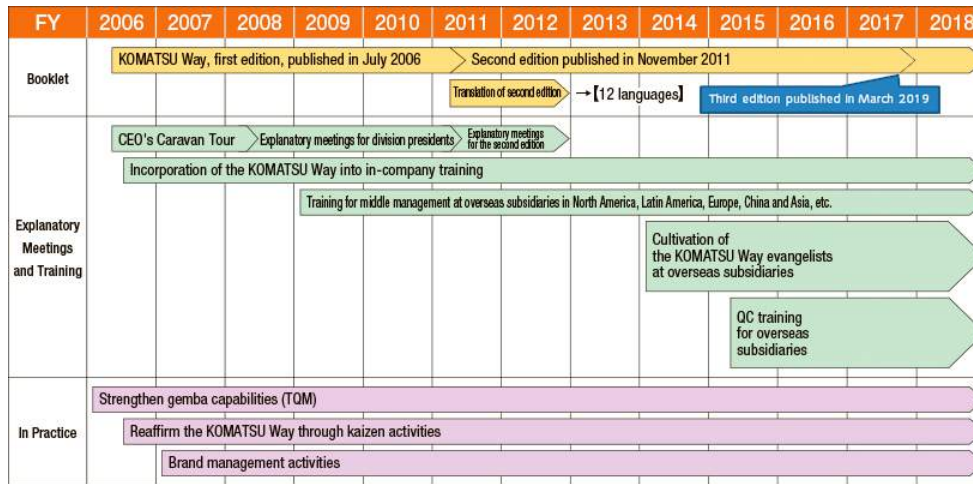
## DATA

## Educational Training that pertains to KOMATSU Way

Name of Training Course	Course participants	Targets	Training dates	Number of participants/cases
Education for top management personnel of overseas subsidiaries (Global Management Seminar)	Overseas subsidiaries' management level personnel or candidates	To train managers at our overseas subsidiaries who have comprehensive understanding of the KOMATSU Way	September 2018 (Japan)	12 people
Education for mid-level managers of overseas subsidiaries (KOMATSU Way Leadership Development Program)	Mid-level managers of overseas subsidiaries expected to be responsible for the core business/functions	To train up local leaders who understand and practice the KOMATSU Way	June 2018 (Chile) June 2018 (Brazil) December 2018 (Thailand)	34 people (Chile) 31 people (Brazil) 28 people (Thailand)
KOMATSU Way Expert Development Program	Mid-level managers of overseas subsidiaries with aptitude	To train up 'evangelists' responsible for spreading the KOMATSU Way in our overseas subsidiaries	June 2018 (Brazil) December 2018 (Thailand)	23 people (Brazil) 11 people (Thailand)
TQM instructor training	Mid-level managers of overseas subsidiaries with aptitude	To promote understanding of QC at overseas subsidiaries	June 2018 (Brazil) December 2018 (Thailand)	29 people (Brazil) 20 people (Thailand)
Training by Job Level	New employees, assistant managers, newly appointed managers, etc.	To promote the understanding and practice of the KOMATSU Way	Year round	1,528 people
All Komatsu QC Convention	Selected from the Komatsu Group in Japan and overseas	To present improvement activities as OJT and strengthen awareness of the KOMATSU Way practices	November 2018 (Oyama Plant)	About 1,200 people

The KOMATSU Way

### The KOMATSU Way-History of Dissemination Activities



# Employee Training Structure

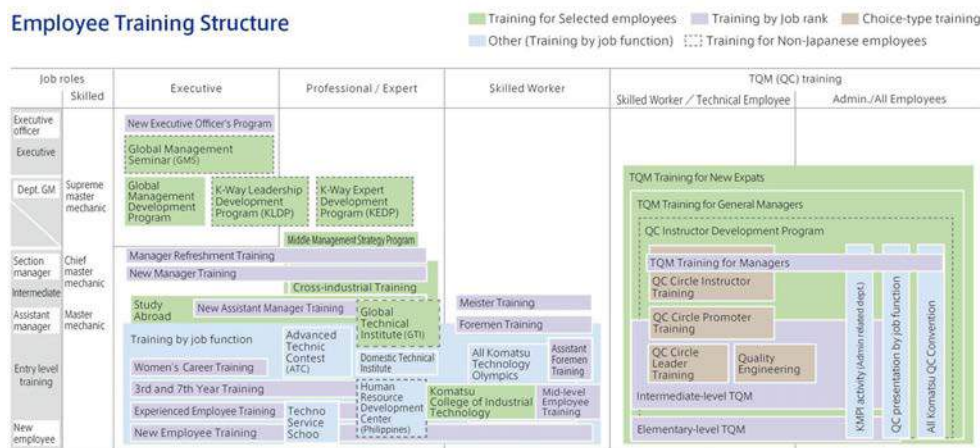
## Approach and Goals

Komatsu strives for the sustainable growth of both the company and employees through human resource development. We believe that each employee is responsible for the setting of high individual goals, and the subsequent fulfillment of these goals. Each employee should thus be self-reliant and highly motivated in seeking the knowledge and skills necessary for the fulfillment of personal objectives, while relying on company support through our educational programs. Komatsu supports the career development of each employee focusing on the education required to company management and employees.

While we promote the education of professionals in a wide variety of proficiencies, Komatsu is aware of the importance for the dissemination of knowledge and skills at every level within the company. Regular explanatory sessions and discussions are convened at Group companies to propagate the KOMATSU way, ensuring that it is incorporated as an integral component of our human resource development on a group-wide scale.

## System and Status in FY2018

### Employee Training Structure



## A Case of Employee Training: Manager Refreshment Training

Since 2017, Komatsu has been conducting a specific training program for manager-level personnel, activating a 360 degree feedback system which requires evaluations from each participant's supervisors, colleagues and other team members. Through the system, we aim to promote improvement of communication at the workplace, encouraging all the participants in the training to recognize the gaps in perceptions with others.

All manager-level personnel in Japan are eligible to attend the program. A total of 1,841 managers attended the training program so far with an attendance rate of over 50%.

The program contributes to preventing abuse of authority and sexual harassment at work from happening by having senior employees realize that they are apt to have an inter-generational perception gap with employees, especially the younger generations. Managers who attended the program commented like, "It was a good chance for me to realize how I am perceived by others," "The program

## Employee Training Structure

helped me to understand the gap in generational thinking,” and “The program provided a heads-up, and it helped us to address the issues that we face in the office.” We aim to achieve a 100% attendance rate for the program as soon as possible.

FY2017	FY2018	Total
1,185	656	1,841 (56%)

Please refer to the following websites for the contents of programs that were held in 2018

> Educational training pertaining to the KOMATSU Way

> Technical Capability of the manufacturing workplace

> Service Personnel HR development

## DATA

## Employee Training

	FY2016	FY2017	FY2018
Average hours per FTE	59	58	58
Average spent per FTE	JPY246,000	JPY255,000	JPY245,000

\* Non-consolidated data for Komatsu Ltd.



## Strengthening Our "Gemba" Capability

Komatsu employees are our most valuable assets because they support sustainable corporate growth.

Developing every employees all over the world through a variety of our human resource development programs enhances Gemba capability (employee-driven continuous improvement capability).

### Enhancing the Technical Capabilities of Our Manufacturing Operations

#### Systems and Status in FY2018

With major advancements in technologies and globalization within our production operations, the need for a high level of technical capability has become all the more relevant. As such, we have designated the third Saturday of every October as "Technical Day", holding technical competitions for employees from all areas of Komatsu. These include personnel from overseas subsidiaries and business associates, who come together to maintain and improve the overall technical capabilities of the Komatsu Group through mutual dedication to studying.

In FY2006, Komatsu established the Meister system that focuses on the passing down of technical know-how from production sites. Techniques and skills that we have judged to be worth passing on are divided into 9 fields that each comprise of 15 specific competencies, with a "First Meister" certified for each competency. Under Komatsu's Mother Plant System, production plants with product development capabilities are specified as "Mother Plants". These plants are responsible for the purveyance of product safety, quality, cost, and delivery of their "Child Plants" (plants that produce the same product). Meisters who have been certified in accordance to their high proficiency in specific technical areas are tasked with guiding and nurturing engineers at both domestic plants and overseas "Child Plants".

Komatsu also conducts vigorous improvement activities by holding all-Komatsu quality control competitions on the third Saturday of every November. Much like our technical competitions, employees from our overseas subsidiaries and business partners across our value chain are welcome to participate.

#### DATA

##### ■ Status of Human Resource Development at the Manufacturing Gemba

		FY2016	FY2017	FY2018
All-Komatsu Technology Olympics	Number of participants	193	181	198
	From overseas	32(11 countries)	39(11 countries)	39(11 countries)
All-Komatsu QC Competition	Number of participants	98	94	93
	From overseas	34(13 countries)	33(14 countries)	36(14 countries)

## ■ Status of Dispatching Technicians from Japan to Overseas Plants and Distributors

### — 2018 Main Countries of Dispatch

India, Indonesia, Cambodia, Singapore, Thailand, Pakistan, Philippines, Malaysia, Laos, Korea, Taiwan, China, South Africa, United Kingdom, Germany, France, Russia, Turkey, Panama, Brazil, Mexico, United States, Canada

## Service Personnel Human Resource Development

### Framework Promoted by Department for Promotion of Distributor HR Development

Our service personnel, who support the operation of our products delivered to customers, take essential responsibility for the Komatsu values of "Quality and Reliability." Komatsu thus has been focusing on the human resource development of employees in the company and of our distributor service personnel. Our human resource development framework for service personnel has programs for internal human resource development and programs for distributor human resource development.

As means for internal training and human resource development, we established the "Techno Service School" for training our Japanese staff, and the "the Komatsu Human Resource Development Center in the Philippines" for training our Filipino staff, to conduct planned training by applying a job rotation system within the company including our overseas offices.

As for the human resource development of distributors' service personnel around the world, Komatsu plans and supports each program depending on the content. Komatsu provides curricula and training materials for basic training courses on products and services, and the local companies (Komatsu subsidiaries or distributors) conduct actual training. We also provide advanced training courses by inviting managers and senior service personnel to Japan, as well as special technical training courses provided by the training centers (mother training centers) which have specialized skills.

Having set up these training environments and assessing the quality of our distributors through small exams sometimes, we have been providing practical training opportunities that bring synergy to sales promotion activities.

## TOPICS

### "Dubai Training & Demonstration Center" Established in UAE

Aiming at enhancing training functions for distributors in the Middle East and Africa regions, we established "Dubai Training & Demonstration Center" in Dubai, UAE, and started training activities in April 2019.

The newly established training center is situated in the Jebel Ali Free Zone, around 50 kilometers away from the Dubai city area and the International Airport. The center has a site area of approx. 17,000. and provides a variety of training required for construction machinery distributors such as sales promotion, parts, services, and machine operations. At the training center, Komatsu certified instructors work, and conduct (1) practical training to develop understanding by seeing and experiencing real machines and equipment, and (2) systematic training globally equivalent in quality. The center not only provides product and technical training for distributors, but also accommodates a wide range of services such as product demonstrations and test operations for customers as sales promotion activities, as well as training for operators.

Currently, Komatsu has 17 training centers in 14 countries. Taking advantage of training know-how cultivated in the other regions, we strongly support the human resource development of distributors in the Middle East and Africa regions, to contribute to further business expansion in the region.

Strengthening Our "Gemba" Capability



[Overview of Dubai Training & Demonstration Center]

Name	Dubai Training & Demonstration Center
Address	S21313 JAFZA South, Jebel Al Free zone, Dubai, UAE
Grounds area	17,000m <sup>2</sup>
Main facilities	Workshops, machine demonstration and operation area, actual products, classrooms, observation room, etc.
Investment	JPY 1.4 billion
Number of employees	11 persons

\* Note: Dubai Training & Demonstration Center is affiliated with Komatsu Middle East FZE, a Komatsu subsidiary in UAE.

# Brand Management Initiatives

## What are Brand Management Initiatives?

### Becoming Invaluable to Our Customers, who Both Create and Assess Our Corporate Value

Komatsu embodies this concept in our statement "our corporate value is the total sum of trust given to us by society and all stakeholders." With this in mind, Komatsu's basic management policy is focused on increasing our corporate value through customer engagement initiatives. Having grouped our various stakeholders into two distinct categories, while the former is responsible for employees, affiliate companies, sales / service shops, etc., the latter includes society, shareholders, investors, media, etc. We have come to the conclusion that it is only our customers who take on both of these roles. Customers create corporate value by purchasing our products, and assess our corporate value through the use and evaluation of our products (which returns to us via feedback). We have thus redefined the meaning of "heightening the trust placed in us from our customers", into a commitment to "increase the trust placed in us to a degree at which our company is indispensable to our customers, in order to guarantee complete customer loyalty and retention". As of FY2007, we have begun initiatives designed to mold our brand into one that conceptualizes this vision.

### Realizing Our Customers' Vision and Mission "from the Customer's Perspective"

Our brand management (BM) activities are built on the fundamental principle of "from the customer's perspective". One of the most common misconceptions regarding marketing activities is that such initiatives involve finding means to differentiate a product from the competition, or about finding a unique position within the market. Komatsu believes, however, that the crux of marketing involves working from the customer's perspective, discovering what customers want and responding specifically to those needs. To realize this grand vision, we are engaged in activities designed to create sustained development and refinement in our management resources and capabilities. In the past, these initiatives tended to rely on experience and intuition, but in the context of Komatsu's BM activities, we have replaced them with a variety of tools and methods designed to develop case studies and accumulate validated experience that can be disseminated to a new generation of employees.

Through discussions over time with our clients, we clarify their Vision (the ultimate future ideal state), Mission (Requirements that must be achieved in realizing the Vision), and Goals (specific items that need to be accomplished). Once we have a good grasp of what our customers are looking for, Komatsu implements a plan that utilizes our management resources and abilities efficiently to achieve said goals. Ultimately, we believe that strong determination is the key aspect in governing the implementation and subsequent success of our BM initiatives.

This chart serves as a summary for the flow of processes involved

Brand Management Initiatives

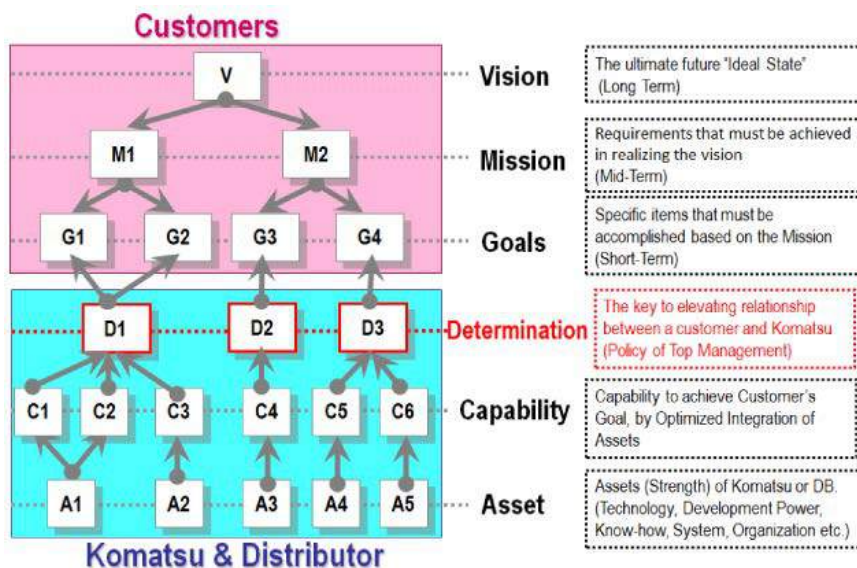


Figure 1: Customer relationship chart

In addition, as a way to confirm the results of our activities, we have developed an evaluation tool (Figure 2) that evaluates the relationship between customers and Komatsu, separating them into seven different categories. These seven categories range from "no use for us (Level 1)" to "Komatsu is indispensable for us (Level 7)". As a company, we strive to create good relationships with our customers and are thus using this tool to provide a clear indicator of what we must do to climb towards a higher level of satisfaction. With that said, we are aware that the levels on this chart make use of self-evaluations based on the subject matter provided by local agents, and thus take that fact into consideration when evaluating the rise and fall of relationship levels with individual customers. We continue to improve on our customer relationships while carrying our daily BM activities, so that Komatsu will become an indispensable partner of customers' continuous choice.

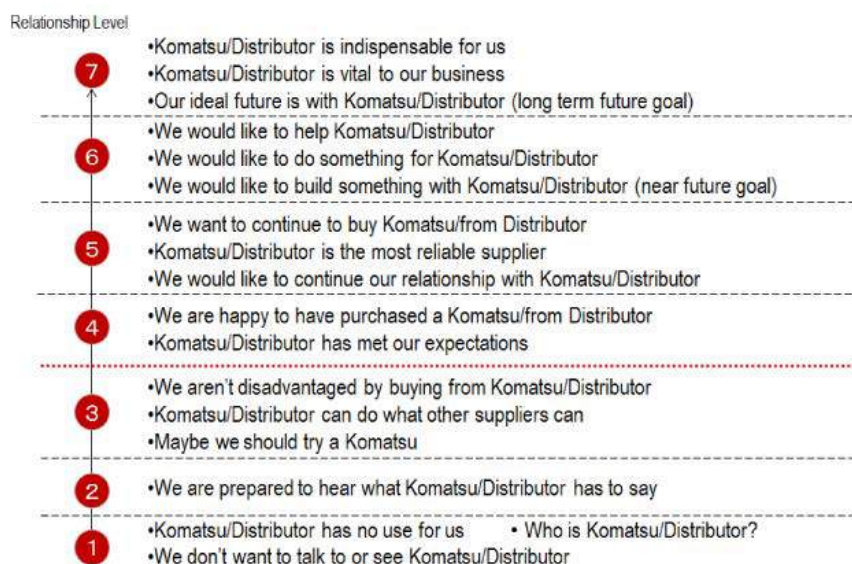


Figure 2: Relationship level model



## Brand Management Initiatives

### Recent Activities and Future Plans

When we began in FY2007, the scope of our activities was limited to Japan, North America, Chile, South Africa and Australia. By FY2013, we had expanded these activities to include China, Southeast Asia, Europe, Brazil, Oman, the Commonwealth of Independent States, and the forestry business. In FY2011, we officially declared our approach as the KOMATSU Way of relating to customers, compiling the "KOMATSU Way of Brand Management."

In FY2017 (more than 10 years since the start of our initiatives), we developed a customer needs stratification sheet to further deepen our insight into "customer perspectives". Through this useful tool, we have become able to review customer needs in a clear, hierarchical format, enabling us to perceive what customers wish to achieve. We also hold workshops on a global scale, focusing on the theme of customer needs.

Brand management activities that began with a focus on stakeholders by our marketing department have expanded into company-wide activities that involve our production and development divisions. Owing to the positive strengthening effects it has on our various departments and human resource development circles, Komatsu will continue to promote brand management activities for the foreseeable future.



Europe BM Workshop (Brussels, June 2018)



## Theme 3 : Growing with Society

095 Communication with Stakeholders

---

099 Compliance

---

103 Risk Management

---

107 CSR Initiatives in the Supply Chain:  
Support for CSR Initiatives of Business Partners

---

120 CSR Procurement Guidelines

---

122 Environmental Risk Management

---

131 Environmental Activities in the Product Life Cycle  
(Upper and Lower Stage)

---

134 Biodiversity

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# Communication with Stakeholders

## Communication with Shareholders

Operating within our commitment to high managerial transparency, Komatsu discloses information in a proper and timely manner through interactive dialogue and constructive approaches to investor relations on a global scale.

### 1. Activities for Corporate Investors and Securities Analysts

On the same day that quarterly business results are announced, the company holds explanatory sessions for corporate investors and securities analysts (we also release this information on our website). Corporate representatives visit institutional investors outside Japan (primarily in the U.S. and Europe) to explain recent business performance statistics and other critical information.

### 2. Informational Meeting for Individual Shareholders

To create the opportunity to communicate with individual shareholders, Komatsu convenes shareholders' meetings in major cities in Japan twice a year, with top management explaining the company's performance statistics and management strategies. In 2018, we held meetings in Nagoya City and Hiroshima City in December, during which the president and CEO provided insight into the business environment and corporate performance data. Many questions were raised during the Q&A session, which covered a wide range of topics such as mining, machinery business, environmental response, and corporate governance.

Since launching in 1997, our shareholder meetings have been convened 47 times, with about 15,700 shareholders participating in attendance to date.



Shareholders' meeting held in Nagoya City



Shareholders' meeting held in Hiroshima City

### 3. Plant Tours for Individual Shareholders

Komatsu holds plant tours for individual shareholders to further deepen their understanding of the company. Tours were held at the Osaka Plant (Osaka), and Awazu Plant (Ishikawa) in October 2018, then Osaka Plant (Osaka), Ibaraki Plant (Ibaraki), Oyama Plant and Tochigi Plant (Tochigi) in February - March 2019 for ten days in total.

Communication with Stakeholders



Plant tour for shareholders at Oyama Plant and Tochigi Plant



Plant tour for shareholders at Osaka Plant



Plant tour for shareholders at Ibaraki Plant

### 4. Meetings for Individual Investors

Komatsu holds meetings for individual investors to explain our business and management strategies as well as to cultivate a deeper understanding of our company. In FY2018, these meetings were held in 9 cities in Japan.



Meetings for individual investors

## DATA

### Events for Shareholders in FY2018 (in Japan)

	Location	Approximate Number of Participants
Shareholders' Meeting	Nagoya, Hiroshima	1,069
Plant Tours for Shareholders	Awazu Plant, Ibaraki Plant, Osaka Plant, Oyama and Tochigi Plant, etc.	352
Meetings for Individual Investors	9 cities in Japan	422

## Communication with Employees

Within Komatsu, the president convenes a “Meeting with the President” periodically at each business site in Japan. At these meetings, the president directly explains the business environment and related issues, and also takes part in a Q&A session held for employees and upper management. The content of these meetings, held at the head office in Tokyo, is simultaneously transmitted by TV broadcast to other business units in Japan and later published on the company intranet in English to share the information with Group employees around the world.

We are currently proactively engaged in holding employee meetings at our overseas subsidiaries in order to provide a place for communication to take place with local Group employees.

In addition to these measures, we launched an intranet bulletin board, entitled “Virtual Office of President,” in January 2014 to share the questions and answers exchanged during the meeting with the president with employees around the world. The site is updated

Communication with Stakeholders

each week with new questions, and as of March 31, 2019, a cumulative total of 251 questions on specific topics, along with the president's answers, explanations and messages to employees, have been published in Japanese and English.



Employee meeting held at the head office



"Virtual Office of President" on the intranet

## Communicating with the Local Community (Efforts in Japan)

We regularly open our plants to the public and hold various events during "Plant Fairs" to cultivate an understanding of our business among local residents. The events were held at eight plants in FY2018 and were attended by about 67,000 people.

The Awazu Plant held a variety of special events to celebrate its 80th anniversary. Visitors who brought a plastic bottle cap worked on cap art to make an art piece of a bulldozer with 10,000 caps, and guests such as the Komatsu City's Deputy Mayor carried out commemorative tree planting amongst others, allowing for a lively and celebratory event.

Date	Plant	Number of Visitors (approx.)
May 19	Oyama and Tochigi Plant	12,000
May 20	Awazu Plant	15,000
May 27	Ibaraki Plant	11,000
July 14	Kanazawa Plant	8,000
September 22	Koriyama Plant	4,000
October 28	Shonan Plant	7,000
November 11	Osaka Plant	10,000



Awazu Plant



Ibaraki Plant



Oyama and Tochigi Plant

Communication with Stakeholders



Kanazawa Plant



Koriyama Plant



Shonan Plant



Osaka Plant

# Compliance

## Promoting Compliance

Komatsu considers the maximization of corporate value with the pursuit of Quality and Reliability as a core component of our management principles. The Company believes its corporate value is the total sum of trust given to the Company by society and all our stakeholders.

In order to raise the total sum of reliability, it is necessary not only to improve business performance and to enhance the soundness and transparency of management, but to also become a company that has acquired societal trust. Thus, it is increasingly important for any company to comply with the rules of business society.

## Frameworks for Promoting Compliance

To make certain that the entire Komatsu Group complies with the rules of the business community, Komatsu has appointed an executive officer at the head office in charge of compliance, and established the Compliance Department to handle this issue exclusively. The Compliance Committee, chaired by the president and CEO, deliberates the Group's action policies and important issues while regularly reporting the state of compliance-related activities to the board of directors.

## Komatsu's Worldwide Code of Business Conduct

The company has formulated Komatsu's Worldwide Code of Business Conduct (established in 1998 and revised nine times to date) as a compilation of best business practices to be observed by officers and employees of Komatsu Group companies around the globe. Rules of business society include not only laws in a narrow sense, but also outlines rules that are generally respected in society. Also, today, as the importance of roles to be played by company in society is increasing, it is important for each and every employee to be fully aware of "corporate social responsibility" and to act in a manner that gains society's trust. Komatsu's Code of Conduct, which shows the basic principles, policies and philosophies that should be observed anywhere in the world, is an excellent guide to living in accordance with the rules of these broad business societies.

"Komatsu's Worldwide Code of Business Conduct" consists of two major parts. The first part clarifies the Komatsu Group's compliance policy and declares that executives and managers of each Komatsu Group company comply with it. The second part specifically describes what all Komatsu employees worldwide should and should not do in order to comply with the rules of the business industry as individuals. We explain easy-to-understand examples of basic ethics in business operations, antitrust laws and anti-corruption.

Komatsu considers CSR as a key responsibility, which is shown by Komatsu's Worldwide Code of Business Conduct clearly focusing on the importance of CSR. The pillar of Komatsu's compliance activities is based on constant repetition of the following process, outlined in the Code : (1) Formulate the Code, (2) Implement the Code, (3) Determine the Code's current status, and (4) Address inadequacies. Komatsu's Worldwide Code of Business Conduct is available at:

» [Komatsu's Worldwide Code of Business Conduct](#)



## Process for Compliance Activities

1. Formulate the Code:  
Formulate the Code and the Five Principles of Compliance as a foundation for compliance activities and revise the Code (currently in its tenth edition) as required to reflect social change.
2. Implement the Code:  
Implement the Code through education that corresponds to employee rank and their respective duties, and by communicating information in accordance with the Code.
3. Determine the current status:  
Determine whether we comply with rules of business society by having all business units regularly report on their use of the Code, implementing compliance and risk audits, conducting "visualization survey" of potential risks and enhancing Komatsu's internal reporting system.
4. Address inadequacies:  
Any issues identified during the above activities or otherwise will be addressed in accordance with the Code and be rectified through implemented preventive measures.

## Upholding Thorough Compliance

So that employees remain acutely aware of compliance all the time, the Group is working to cultivate their consciousness of best business practices by displaying business unit posters in every Komatsu Group listing The Five Principles of Compliance (a condensed version of Komatsu's Code of Worldwide Business Conduct). As for employee education, we have been expanding global e-learning since the 10th edition of Komatsu's Code of Worldwide Business Conduct to help employees across all operations understand the Code. Also, compliance training in the form of group education is being conducted according to the levels of managers and general employees. In addition, we are expanding business-specific compliance training, and individual training in response to requests from departments. Furthermore, as training for risks for overseas operations, education on anti-corruption, antitrust laws, export control and more is provided to prospective employees to be based abroad.

We have established a "Compliance Portal" on our intranet to ensure wide-spread awareness. The monthly magazine "Everybody's Compliance" provides explanations of important laws, lessons learned from other companies, and articles on human rights, harassment prevention and traffic rules for general business-related practices. Articles on anti-corruption, antitrust laws, and export control have been repeatedly published as particularly important fields.

The Group strives to detect risks early and implement reforms at Komatsu business units and Group companies through monitoring during financial audits and compliance and risk audits. The monitoring covers compliance in highly important areas such as safety and environmental practices.

## Internal Reporting System

Komatsu has established the "Compliance Hotline" consultation office both internally and externally at the Komatsu Group companies to respond to consultations or reporting from Group company employees that pertain to rules of business society aiming for prompt detection and correction of those problems. The Group actively encourages consultations and reporting through Komatsu's Worldwide Code of Business Conduct, the Five Principles of Compliance, and Group companies' workplace rules, making it clear that employees who use the system for appropriate reporting will not be treated unfairly in any way as a result of their action.



## Compliance

## Status in FY2018

No incidents of note occurred during 2018.

## DATA

## 1. Number of Internal Reports

	FY2016	FY2017	FY2018
Number of Internal Reports (number of serious cases)	95 (0)	105 (0)	134 (0)

## 2. About Komatsu's Worldwide Code of Business Conduct

Established	January 1, 1998
Last revised	October 1, 2017 (10th edition)
Languages	<b>20 languages</b> Japanese, English, Chinese, Spanish, Portuguese, German, Dutch, Italian, Polish, French, Swedish, Finnish, Indonesian, Thai, Russian, Turkish, Persian, Tamil Taiwanese, Korean

## 3. Compliance Education in FY2018


Global e-learning	Approx. 30,000 people
<Group training (mainly Japan)> Level-based training Individual training by request	Approx. 1,700 people Approx. 700 people

## 4. Compliance violation in FY2018

No compliance violation had a significant impact on the management of the company.

## Compliance

## 5. With regards to anti-corruption

<p>Number of employees who were dismissed because of conflict with Komatsu's anti-corruption policy (global)</p>	<p>Fiscal Year 2018: Zero</p>
<p>Fines imposed on Komatsu related to corruption / Amount of penalties (global)</p>	<p>Fiscal Year 2018: Zero</p>
<p>Number of employee training sessions on anti-corruption prevention (in Japan)</p>	<p>Fiscal year 2018: 12 times Target audience: Approximately 100 (planned to be transferred overseas)</p> 
<p>Establishment of internal reporting system related to corruption (global)</p>	<p>Prevention of corruption is specified in "Komatsu's Worldwide Code of Business Conduct" as a key priority issue. If there is any suspicion or concern involving corruption or the violation of business society rules, concerned parties are invited to use the Compliance Hotlines established at the Komatsu Head Office or within each region to report the problem.</p>

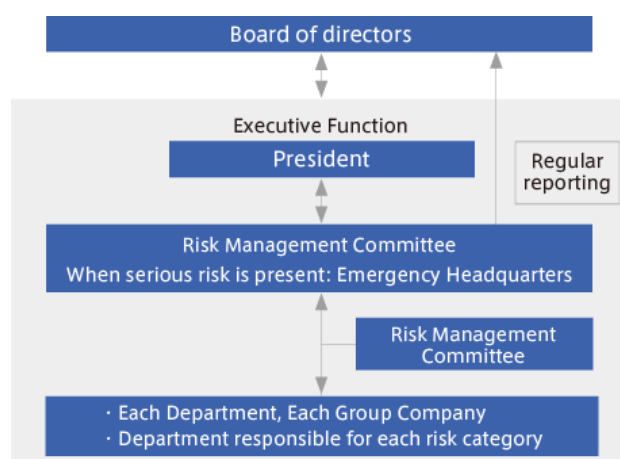
# Risk Management

The Komatsu Group recognizes all uncertainties that could threaten the Group's sustainable growth as major risks, particularly compliance issues, environmental issues, product quality concerns, hazardous accidents, information security problems and elimination of anti-social forces. The company has adopted the following measures to counter these risks.

## Basic Principles and Structure for Risk Management

- In addition to the basic policy for risk management to ensure business continuity and stable development, Komatsu has established Risk Management Rules to correctly recognize and manage risks.
- Komatsu has established a Risk Management Committee to devise relevant policies for the entire Group, review the risk management system, and evaluate and improve upon response measures in place for each risk, as well as to take control of risks when they arise. The committee regularly reports on its deliberations and activities to the board of directors.
- Komatsu will establish an emergency headquarters when serious risks occur and implement appropriate measures to minimize damage.

### Risk Management Structure



## Specific initiatives

### Improvement of risk management system including the Group companies

We are developing risk reporting lines, preparing related manuals and making other efforts to further improve the risk management system of the entire Group, including overseas subsidiaries. In connection with a business continuity plan (BCP), each office in Japan carries out initial response training to raise the level of risk management and response to disasters. We are also strengthening the emergency communication functions of the entire Group by developing tools such as the safety confirmation system and broad-area wireless devices, and conducting periodical training programs for the reporting of safety and telecommunications.

### Establishing a business continuity plan (BCP) and providing training

Komatsu has established a BCP to promptly check the safety of its employees and their families and to continue or quickly restore important operations when a disaster or accident strikes. The head office building and factories conduct periodical training to facilitate appropriate actions taken in an actual disaster by role-playing the occurrence of a large earthquake. In addition, the factories increase the seismic capacity of their buildings and facilities and take measures against torrential rains based on their respective plans.

## Risk Management

## BCP training at Oyama Plant



## BCP training at Awazu Plant



## Conducting Compliance and Risk Audits

As a part of its risk management activities, Komatsu has been conducting compliance and risk audits (CR audits) since FY2008. These cover areas are not included in the J-SOX audits, which are conducted in accordance with the Financial Instruments and Exchange Act of Japan to evaluate internal controls related to financial reporting and identify potential compliance risks within the company, with a particular focus on confirming and evaluating the status of legal compliance. Our internal specialist team conducts the internal audits at Komatsu and its Japanese/overseas affiliates, as well as independently-owned distributors and Midori-kai member companies.

The audited items are: 1. Field instructor ;2. Safety; 3. Environment; 4. Labor; 5. Finance and Treasury; 6. Audit of sales office base business operation;7. Quality Assurance and Recall; 8. Vehicle Inspections and Specific Voluntary Inspections (inspections done on construction equipment, similar to car inspections); 9. Export Control; 10. Information Security; 11. the Anti-monopoly Act; 12. the Subcontract Act; and 13. Overseas Representative Offices.

Through these audits, we strive to raise the control and compliance awareness levels at each company and in every department. Going forward, we would like to improve our case-by-case audit method and raise the operational level of CR audits as a part of risk management functions.

## Strengthening Information Security

Komatsu is developing an information security structure for the entire Group, placing the Information Security Committee at its center. As part of this structure, we distribute an Information Security Guidebook to all employees, based on which we provide education and awareness-raising activities, with the belief that raising the awareness of individual employees is essential for information security. We provide employees of the Group companies who use PCs with basic education on information security through e-learning and training for responding to targeted attack e-mails that uses fraudulent messages.

Additionally, we provide our executives with separate e-learning sessions to raise the Group companies' awareness of security measures. Moreover, we develop a system defense structure to protect information from being falsified, destroyed, leaked, lost, etc. due to negligence or outside intrusion. We also conduct information security audits to ensure that these measures are working effectively and to detect and address any problems.



## Human Right Management Issues

Komatsu signed the United Nations Global Compact in 2008. In an effort to apply its major principles for protecting human rights, Komatsu utilized the help of external experts (BSR, or Business for Social Responsibility) to conduct a human rights risk assessment for all of its construction/mining equipment and forestry machinery businesses worldwide in 2014 and once again in 2017, taking guidance from the Universal Declaration of Human Rights and the U.N. Guiding Principles on Business and Human Rights.

The human rights risk might not be removed depending on the business, area and contractors, so we will respond flexibly as needed.

## Corresponding to the Modern Slavery Act (UK)

In response to the "Modern Slavery Act 2015" (a law preventing the system of slavery in the current era) being enacted by the UK in October 2015, Komatsu UK Ltd. revised its "Slavery and Human Trafficking Statement for the Financial Year 2015." disclosed on the web site. Recognizing the possibility of the risk of human rights violation occurring in Komatsu's business operations and its supply chains, this statement reports how such an issue will be properly managed.

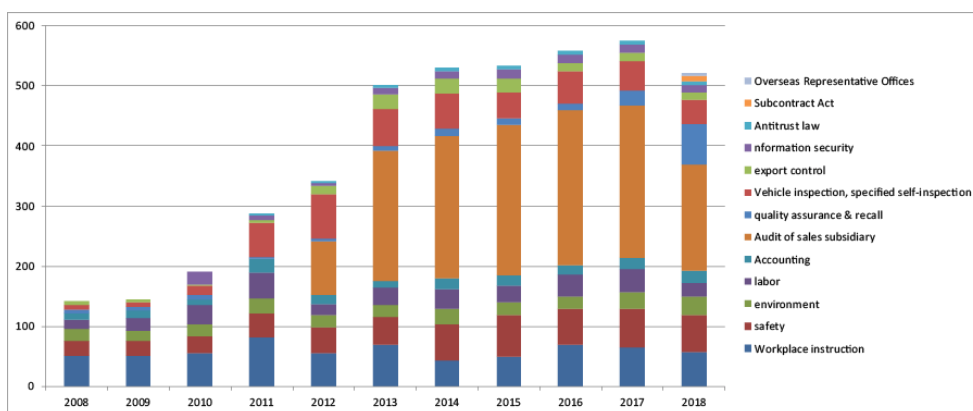
[> " Komatsu UK Ltd. website \(link\) !\[\]\(bd3b31712ad9bab5a241210fa6925cdd\_img.jpg\)](#)

## DATA

### Record of BCP Training

Content of Training	Business Site
Earthquake initial response training BCP training Communication training with Broad-area Wireless Devices	Major business sites in Japan
Safety Reporting	All Group companies in Japan

### Implementation of Compliance and Risk Audits



## Employee Education (Information Security)

Name of Course	Target
New Employee Training	New employees (both new graduates and experienced hires)
e-learning Information Security (Basic Course)	All employees who use PCs at work
e-learning Information Security (Management Course)	All managers (line managers such as GMs and section mangers)
Training for responding to targeted attack e-mails	All employees who use PCs to perform duties

# CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

Our business partners are important members of our value chain, who supply the materials, parts and components necessary for the continued operation of our manufacturing enterprise. At Komatsu, we aim to build a Win-Win relationship with our business partners by making interactive efforts under a relationship of mutual trust. Along with the expansion of our global operation, our supply chain has also been expanding all over the world. Taking seriously the recent gain of momentum for the spread of CSR in the overall supply chain, we are working to realize CSR procurement globally by being proactive in providing intense support for the CSR initiatives of our business partners.

## Approach and Policy

### 1. Komatsu's Procurement Policy and Procurement Status

As stated above, Komatsu's procurement policy is based on the philosophy of aiming to build a Win-Win relationship with our business partners, who are on an equal footing with us, encouraging each other. The policy is to promote daily procurement activities taking CSR aspects into consideration, by evaluating and selecting suppliers in a fair and equitable manner from the viewpoint of SLQDC (Safety, compliance with the Law, Quality, Delivery and Cost). Our general production policy is to manufacture products directly within the areas of demand.

Concerning components, parts, materials and other items, we are promoting local procurement proactively based on production and procurement policies that we set in accordance with the characteristics of each. Above all, for Components B and C listed below, we are expanding cross sourcing between regions to respond flexibly to changes in the international trade environment such as exchange rate fluctuations, FTA and EPA, aiming for globally optimal procurement.

#### Policy on Production and Procurement of Components and Parts for Construction and Mining Machinery

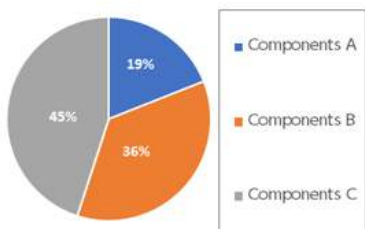
Category	Definition	Production and procurement policy	Examples of parts
Components A	Key components for differentiation that determine product quality and functions	Permanent development and production in Japan (supply from Japan to the world)	Engines, transmissions, axles, hydraulic equipment, and electronic equipment
Components B	Components that we need to purchase intensively from certified suppliers from the viewpoints of functions, quality, and investment	Optimal procurement from 2 or 3 regions in the world	Floor parts of cabin, cooling parts, undercarriage parts, cylinders, high-pressure hoses, tires, rims, and operator's seats
Components C	Parts with relatively low levels of technological difficulty, which should desirably be produced or procured close to the assembly plant	Local procurement	Thick/ thin sheet-metal parts, machined parts, and cast and wrought products as materials



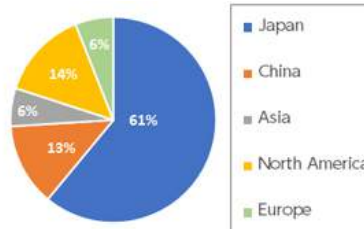
CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

The breakdown of procurement in monetary terms in the construction and mining equipment business of the Komatsu Group in FY2018 is shown below.

Components Types by Percentage of Procurement in Monetary Terms



Origin of components by Percentage of Procurement in Monetary Terms



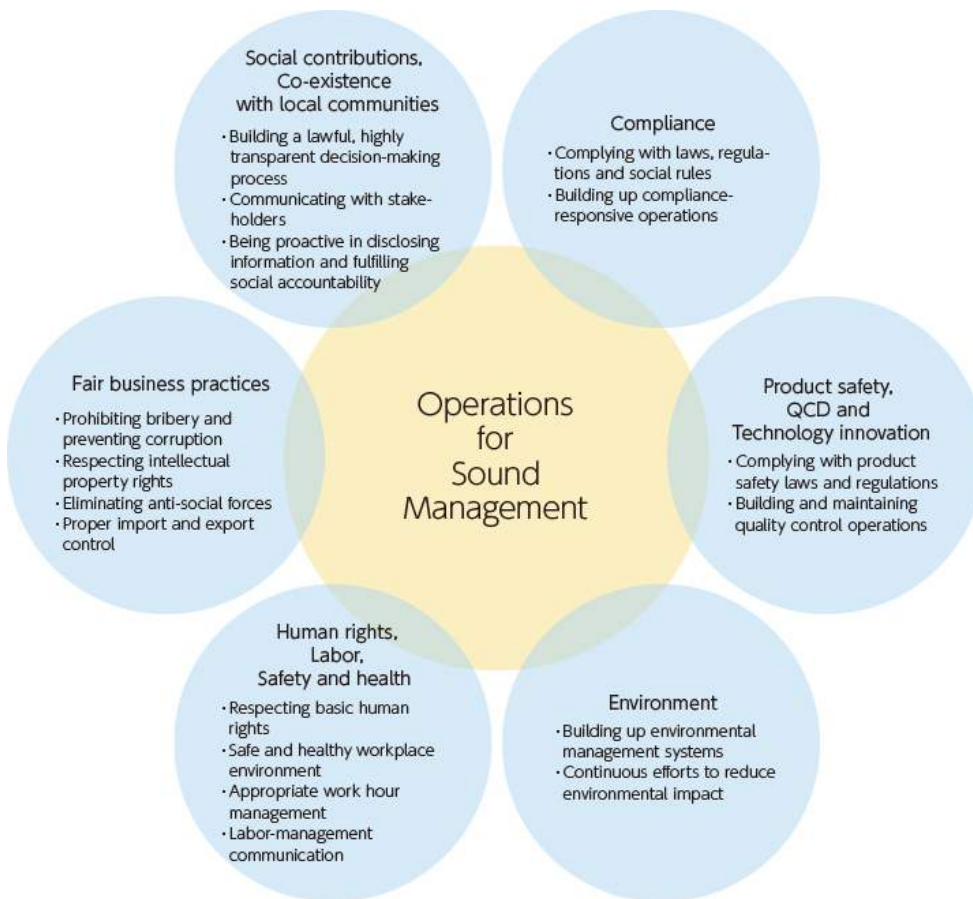
## 2. CSR Procurement Guidelines

We have established the Komatsu Group CSR Procurement Guidelines and the Komatsu Green Procurement Guidelines, in which we have described our expectations we want our business partners to take concerning CSR and environmental management. We disclose them on our website and strive to spread them out. The guidelines are available for viewing at the following:

> [Komatsu Group CSR Procurement Guidelines - Requests for Business Partners](#)

> [Komatsu Green Procurement Guidelines\(569KB\)](#)

### Areas covered by the CSR Procurement Guidelines



At Komatsu, we launched a whistleblowing system for suppliers in March 2017 to accept whistleblowing reports from suppliers on acts in procurement activities of the Komatsu Group which are violating or alleged to be violating laws and regulations. Matters reported via dedicated contacts, which we set up inside and outside the company, are handled by a department in a neutral position. This department investigates and verifies facts to take corrective measures promptly. We have vowed to ensure that business partners who have reported will not receive any disadvantageous treatment.

[> Komatsu's Whistleblowing System for Suppliers\(121KB\)](#) 

## Our Support for Komatsu Midori-kai in FY2018

### 1. The Komatsu Midori-kai

In the construction and mining equipment business, Komatsu has deals with approx. 2,700 Tier 1 business partners all over the world. We have established the Komatsu Midori-kai which consists of particular business partners who are deemed especially important or critical for the Komatsu Group. The members are selected through evaluation from the viewpoint of management culture including the management philosophy of top management, SLQDC\* performance including development and proposal capabilities in business transactions with Komatsu, the level of importance of the supplied items in light of our procurement strategies and technologies, the track record and the size of business transactions with Komatsu, and other elements. At present, the Komatsu Midori-kai operates in four regions -- Japan, China, North America and Europe. Procurement from members of the Komatsu Midori-kai accounts for approx. 73% of total procurement in monetary terms. The Komatsu Midori-kai in each region collaborates with Komatsu's manufacturing plants in promoting activities that take advantage of characteristics of the region. It also holds regular meetings to promote understanding of Komatsu's businesses and activate communication between Komatsu's executives and top management of member companies. Many overseas member companies, as well as those in Japan, participate in the general meeting, which is held in November every year. At this meeting, executives of Komatsu give business briefings, and explain our global procurement policy and priority activities. In Japan and China, as a measure to support the improvement of member companies' competitiveness, the Komatsu Midori-kai divides its members into some groups (subcommittees) based on the items they supply, and promotes improvement activities in cooperation with Komatsu by selecting common themes such as safety, the environment and the latest production technologies. Information about actual improvements that have been made is shared by companies in the same group to promote the horizontal spread of information.

\* SLQDC: abbreviation for Safety, compliance with the Law, Quality, Delivery and Cost



General meeting of Midori-kai (Japan)



General assembly of Midori-kai in North America

#### Definition of critical suppliers

1. Suppliers with special technology/know-how for important components/parts  
(mainly proprietary/electronic components suppliers)
2. Non-substitutable suppliers who are able to do good SLQDC performance, in long-term business relationship  
(mainly sub-contracted suppliers)

## CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

## Breakdown of Critical Suppliers

Region		Number of companies						
		Total	Custom goods suppliers*1		Purchased goods suppliers*2			
			Companies in which Komatsu has invested	Companies which are highly dependent on Komatsu	Companies in which Komatsu has invested	Companies which are highly dependent on Komatsu	Major enterprises	Trading companies/material suppliers
Midori-kai member companies	Japan	156	7	86	2	7	43	11
	China	59	3	32	1	4	14	5
	North America	44	1	15		1	19	8
	Europe	39		6			30	3
Non-members of Midori-kai	Japan	1	1					
	North America	2						2
	Thailand	9		6	1			2
	Indonesia	4	1	1				2
	India	1		1				
	Vietnam	3		2		1		
Total		318	13	149	4	13	106	33

\*1 Business partners who manufacture goods based on drawings and/or specifications from Komatsu (mostly medium and small enterprises)

\*2 Business partners who manufacture goods based on their own drawings and/or specifications (mostly major companies)

## Classification of Critical Suppliers

Categories		Number and Percentage of Total (The numbers of higher-level companies are included in those of lower-level ones.)		Percentage of procurement in monetary terms	
1	All Tier 1 suppliers	2,666	100%	100%	
2	Level 3	318	12%	76%	
3	Critical suppliers Level 2	179	7%	66%	
4	Level 1	17	1%	8%	

The level of critical suppliers is determined by the degree of Komatsu's involvement in each.

Level 1: Companies in which Komatsu or the Komatsu Group companies have invested

Level 2: Companies in which Komatsu or the Komatsu Group companies have not invested but which are highly dependent on business transactions with Komatsu

Level 3: All critical suppliers

## CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

Field		Methods of supply chain risk assessment (○: Subject of the assessment)						
		General	Management			CSR		
		Bi-directional communication through activities of Midori-kai	Regular reporting of management status and financial standing (*1)	Corporate evaluation: Evaluation of SLQDC(*2) performance and factors related to corporate management	Evaluation of the level of safety activities	Evaluation of the level of environmental management activities	Compliance and risk (CR) audits (*3)	Evaluation of compliance system and its operation
Frequency		As occasion arises	Annually/quarterly	Annually	Every six months	Annually	2-year cycle	Annually
Method		<ul style="list-style-type: none"> <li>Business briefing and lecture on procurement policy</li> <li>Q&amp;A sessions</li> <li>Activities of subcommittees</li> </ul>	<ul style="list-style-type: none"> <li>Survey through questionnaires</li> </ul>	<ul style="list-style-type: none"> <li>Full-year performance</li> <li>Interview with top management</li> </ul>	<ul style="list-style-type: none"> <li>Survey through questionnaires</li> <li>Interview with top management</li> <li>On-site audit</li> </ul>	<ul style="list-style-type: none"> <li>Survey through questionnaires</li> <li>Interview with top management</li> <li>On-site audit</li> </ul>	<ul style="list-style-type: none"> <li>Survey through questionnaires</li> <li>On-site audit</li> <li>Checking documents</li> </ul>	<ul style="list-style-type: none"> <li>Survey through questionnaires</li> <li>On-site audit</li> </ul>
1	All Tier 1 suppliers	-	○	-	-	-	-	-
2	Level 3	○	○	-	-	○	-	○
3	Critical suppliers Level 2	○	○(*4)	○(*5)	○(*4)	○	-	○
4	Level 1	○	○	○	○	○	○(*6)	○

\*1: In the case of a listed company, financial reports are reviewed alternatively.

\*2: Safety, compliance with the Law, Quality, Delivery and Cost

\*3: Finance and accounting, labor management, procurement (the Subcontract Act) and information security

\*4: Custom goods suppliers and Purchased goods suppliers who are highly dependent on Komatsu

\*5: Custom goods suppliers only

\*6: Companies in which Komatsu has invested

\*7: Plants located in Japan only

## 2. Support for Member Companies of the Komatsu Midori-kai

Komatsu supports Midori-Kai member companies in a variety of ways. Main support activities that we have carried out are described below.

### ■ (1) Safety

As part of the effort to strengthen safety and health activities, we provide support for the establishment of systems for safety activities and improvement of the activity level (including acquisition of OSHMS certification) to 99 companies, the majority of which are custom goods suppliers belonging to the Midori-kai in Japan. The support includes continuous safety patrols by specialists from Komatsu, and

CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

sharing information and horizontal application of occupational safety measures conducted by other companies. We also promote the mutual improvement of member companies in each group of the subcommittees, by encouraging them to perform mutual visits and spot-checks to acquire data and investigate potential areas of improvement from the viewpoint of companies in the same trade. In FY2017, we developed a check sheet for evaluating the level of safety, which is common to all companies. Using this check sheet, we keep track of the status of the improvement of each company's activities under the same standards. We have also opened safety training centers at Komatsu plants to member companies. We provide their employees with a way to simulate workplace hazards and receive anticipatory training for potential dangers to raise their safety awareness. These activities are also carried out at the Midori-kai in China.



Risk assessment training



Group performing a mutual safety patrol

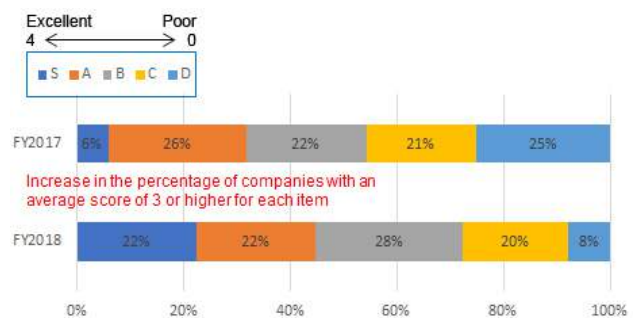


Presentation by Sekigahara factory at a Komatsu safety meeting

Results of the evaluations of the level of safety activities from 99 member companies of the Midori-kai in Japan



Changes in the results of the evaluations of the level of safety activities from 2017 to 2018 (99 member companies of the Midori-kai)



■ (2) Environment

We have requested all member companies of the Midori-kai in Japan and China to obtain certifications for environmental management systems (EMS), such as ISO14001 and Eco-Stage, and provided them with instructions and support for obtaining the certifications. In Japan, all 156 member companies have obtained the certifications, and we began to check the renewal status of the certifications in 2018. In China, we are planning to have all 59 members obtain the certifications within FY2019. Of all 318 Critical suppliers, although companies in Europe, the U.S. and other Asian regions are expected to work towards certification in the coming future, we are aiming for an 85% acquisition (for all manufacturing companies excluding trading companies) by 2021. In addition, in 2012, we began activities for reducing the power consumption of 96 companies in Japan by setting the target of reducing the consumption of electricity by at least 15%, compared to 2010. This target was achieved in FY2016, with an average reduction of 20%.

In the future, we will work to maintain the reduction level through independent activities of each company. In FY2018, we set a target to reduce CO<sub>2</sub> emissions from all kinds of energy, including heavy oil and gas and also electric power, by 15% (by 2021/ compared to 2010). As a first step, we conducted a fact-finding survey of ten cast and wrought iron companies and heat treatment companies, which emit large amounts of CO<sub>2</sub>, and began to provide them with information about improvements we actually made and install these improvement measures to them. We will expand this activity to 179 suppliers that fall under Major Suppliers-Level 2\*. Furthermore, since FY2017, we have also been engaged in activities for addressing water risks, such as floods and water pollution, and activities for



CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

reducing the water consumption by 15% (by 2021) of other ten companies, which use large amounts of clean water.

Level 2\*: Critical suppliers who depend highly on business with Komatsu

In China, extremely tough environmental regulations were imposed in 2015, mainly in the coastal areas, aiming to improve air pollution issues (PM2.5). As a result, companies engaging in businesses such as painting, welding, casting and plating are required to take thorough measures to reduce exhaust air, smoke and soot (including VOCs). Working together with member companies of the Midori-kai in China, we provide support for complying with the regulations, including the installation of facilities. As a result of measures taken by the companies, 14 companies had been certified as exempt from the regulations (as green companies) as of March 31, 2019.



Survey based on interviews on environment



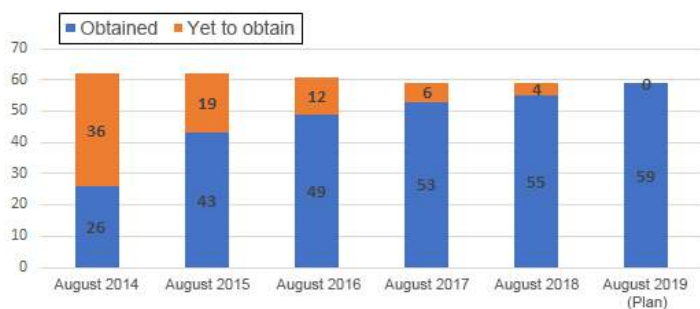
An example of measures to meet regulations in China (Daikyo Machinery Shandong Co., Ltd.: Installation of a welding fume dust collector and exhaust air ducts)

Number of Midori-kai Member Companies with EMS Certifications

Region	Number of member companies	Number of companies which have obtained certification	Percentage of companies with certification
Japan	156	156	100%
China	59	55	93%
North America	44	19	43%
Europe	39	29	74%

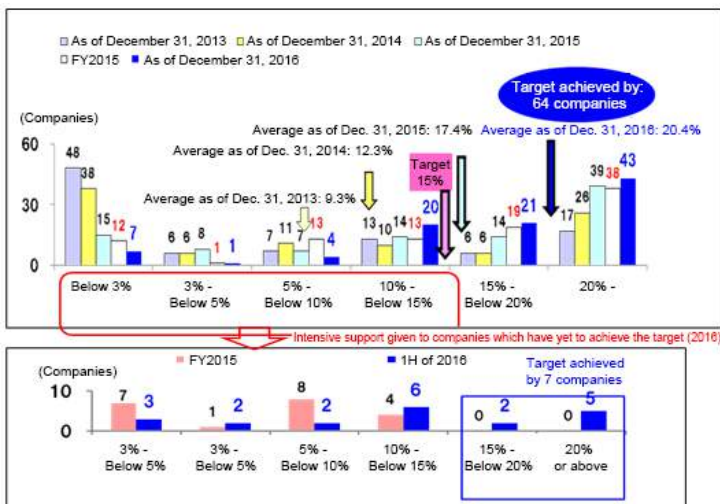
Values for North America and Europe are as of September 2017. The latest data are being collected.

Number of Midori-kai member companies in China which have obtained EMS certifications

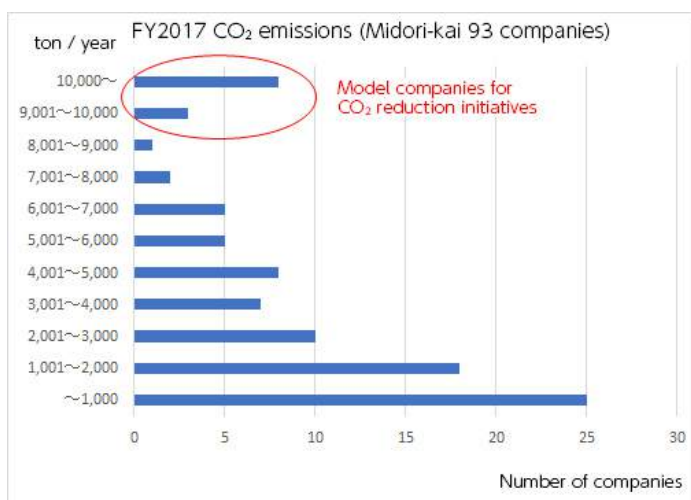


CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

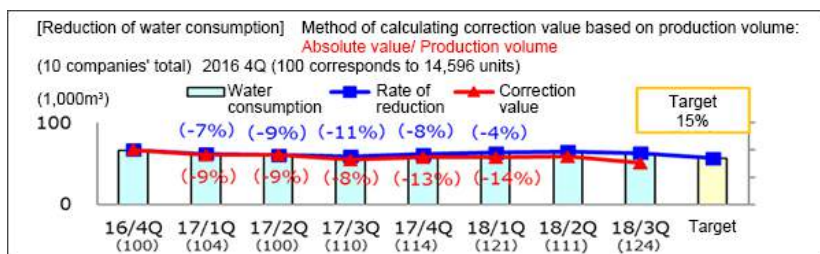
Results of activities in Japan for reducing power consumption from 2012 to 2016 (reduction of electric power consumption rate calculated against the 2010 base unit)



FY2017 CO2 emissions (Midori-kai 93 companies)



Results of activities for reducing clean water consumption during 2017 and 2018



(3) Personnel Development

We believe that the greatest support that we can provide to the Midori-kai is human resource development. Based on this belief, we provide various job-level training programs as listed below. In recent years, we are particularly committed to Management Salons and skills transfer activities. Management Salons are aimed at developing young individuals in management positions, who have inherited



## CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

a business recently. Through these engagements, Komatsu executives exchange views on medium-term management visions of the companies with their counterparts who do not have much experience in company management to align and share management policies and ideas. The skills transfer activities are aimed at facilitating the improvement and succession of the on-site skills of each company. In these activities, we help each company build a system for promoting skills transfer and develop instructors in core skills fields by disseminating our knowledge and skills.

### Training Programs for Midori-kai Member Companies

Target job level	Program	Outline	Major achievements
Management	Commissioned training	Komatsu accepts sons and daughters of corporate managers of member companies and provides them with on-the-job training for up to five years.	49 trainees have been accepted since 1972.
	Middle management training	Komatsu's training program for its executive candidates is open to candidates for member company successor. Duration of the training is seven months.	23 people have participated since 2005.
	Management Salons	Young corporate managers of member companies make presentations on medium-term management visions of their respective companies, which are discussed and shared with Komatsu.	Provided to a total of 22 companies since 2014
Employees in managerial positions	Managerial training	Exclusive training programs for the Midori-kai. The training is provided two times a year.	Around 40 people participate every year.
	Leader training (for field managers)		Around 60 people participate every year.
Representatives	Komatsu Technical Institute	Intended for leader candidates related to production engineering and manufacturing who are aged 30 or younger. It is a boarding school which provides a two-year program.	22 people have participated since 2008.
	Production engineer training	It is an exclusive training program for the Midori-kai on sheet metal processing and mechanical engineering. Five-day training is provided once a year.	Around 40 people participate every year.
Skilled workers	Instructor training	A 30-day program for candidates for skilled instructors of each company	69 people have participated since 2015.
	Inspection training school	Inspection skills training and classroom lectures	
Others	All Komatsu QC competition	Participants are selected from among the Midori-kai members.	Around 20 companies participate every year.
	All Komatsu skills competition (Advanced Technique Contest)	Participants are selected from among the Midori-kai members.	

CSR Initiatives in the Supply Chain: Support for CSR Initiatives of Business Partners

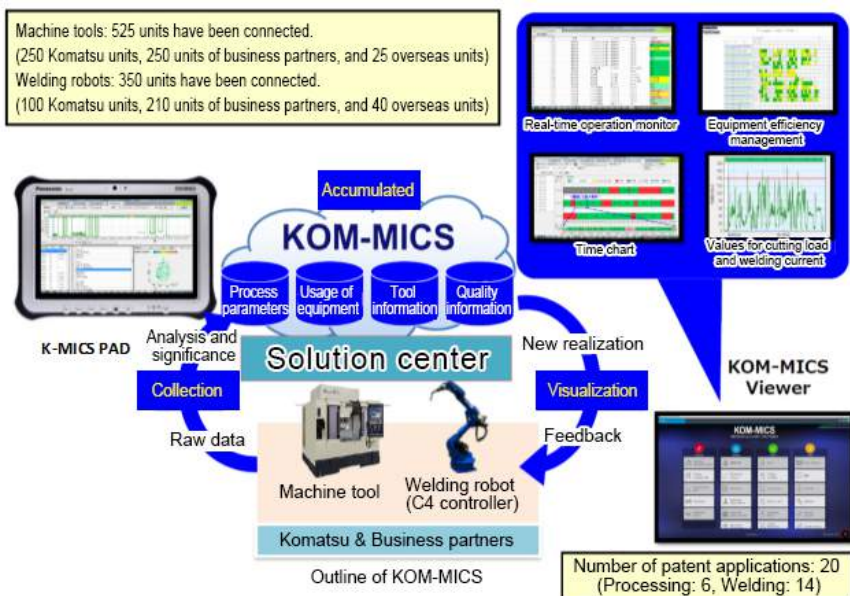


Management Salon

■ (4) Supporting Productivity Improvement Activities by Using ICT

Addressing the issue of the labor shortage, which has been growing more seriously in recent years, is an urgent task for Komatsu and members of the Midori-kai as well. We promote the networking of production sites and facilities by making effective use of ICT (KOM-MICS) and using the network to improve productivity and save human resources. As a countermeasure against the labor shortage, we are expanding these activities to members of the Midori-kai proactively. Tools such as ones for monitoring operating rates that we developed on our own (K-MICS PAD) automatically collect data, including operational statuses and operating conditions, from the controllers of machine tools and welding robots of each company. These data are accumulated on the network, and processed and edited on a PC with application prepared for each purpose. We thus visualize the issues that need to be overcome to improve the operating rate, leading to collaborative analysis and implementation of measures.

Outline of KOM-MICS



■ (5) Management System

(i) Checks and Balances System for New Business Transactions and Agreements

In order to decide whether or not to begin transactions with a new business partner, we use a check sheet to evaluate the company not only in terms of basic SLQDC items but also from the viewpoints of environmental protection, employee training and others. In the basic transaction agreement that we conclude before beginning transactions, we include articles on compliance, environmental protection activities, elimination of anti-social forces and other elements, thereby encouraging the business partner to promote CSR activities. In addition, in the annual evaluation of custom goods suppliers (Japan and China) belonging to the Midori-kai, we evaluate them in terms of the business attitudes of their top management and their systems for promoting activities in areas such as safety and health, environmental protection and human resource development, in addition to their full-year QDC performance. We provide feedback on the results of the evaluation to business partners to help them make improvements.

**(ii) BCP to Prepare for Natural Disasters**

In FY2012, we began to operate in Japan a supply chain management system linked with disaster information from the Japan Meteorological Agency. This is aimed at minimizing the impact on our production of a natural disaster, such as earthquakes and tsunami, by quickly inspecting damage to our business partners and the impact on our supply chain after the occurrence of a disaster. We have built a database of locations and production items at 20,000 sites of 7,662 business partners, including Tier 2 and 3 suppliers, thereby visualizing the risks of interruption in product supply that can be expected to be caused by a disaster. This enables us to take well-focused countermeasures promptly. In the event of a disaster, we first check the damage to our suppliers at high risk which have been assessed through the system. Where necessary, we dispatch security maintenance personnel to the companies to support their activities for the prompt recovery of production. In 2018, we were reminded once again of the necessity of the BCP system in the supply chain because we suffered many natural disasters, such as earthquakes, heavy rains and typhoons, mainly in West Japan. We took the Great East Japan Earthquake in 2011 as an opportunity to take countermeasures against earthquakes and floods, mainly for tangible properties of 104 Midori-kai member companies, including their buildings and equipment. Moving forward, we will also strengthen intangible measures, such as the creation and appropriate revisions of the BCP manual, and the provision of simulation training.



Examples of recovery support (lending of power generators and assistance in machine centering)



Map showing the epicenter of the Northern Osaka Earthquake in June 2018 and the distribution of our business partners

**(iii) Compliance**

We conduct compliance and risk audits (CR audits) internally. In 2016, we began to conduct the CR audits even for 17 business partners in which we have made minority investments. The audit is conducted in four fields -- finance and accounting, labor management, procurement (the Subcontract Act) and information security. It is aimed at identifying potential risks and taking corrective measures at an early stage. The risks are identified mainly by checking the status of compliance with relevant laws and regulations, confirming business rules, segregation of business and decision-making authorities, inspecting relevant business documents and conducting on-site examinations. Voluntary establishment of compliance systems by business partners is essential for promoting CSR procurement. We believe that such a system should desirably be established by 1) formulating rules (establishing codes of conduct of each company), 2) building a structure for promoting CSR procurement (including the appointment of a person in charge and promoters), 3) introducing a whistleblowing system, and then 4) providing employees with awareness training. In accordance with this policy, in FY2018, we conducted a questionnaire survey on the status of forming own compliance systems against 99 companies mainly consisting of custom goods suppliers belonging to the Midori-kai. Five model companies were selected from among them, to which we provided support for establishing a compliance system through providing practical examples and employee training materials. This initiative will be continued until FY2021 for all 318 Critical suppliers.

**Main Findings through CR Audits (2016 to 2018)**

Field	Findings	Countermeasures
Finance and accounting	<ul style="list-style-type: none"> <li>-Business flow, operating procedures and decision-making authorities have yet to be set/ are insufficient.</li> <li>-Physical inventory check is not conducted/ not regularly conducted.</li> <li>-Rules on sale and disposal of stagnant assets and loss on forced write-down of such assets are not clear.</li> <li>-Management of corporate seals and password updates for the accounting system are not done thoroughly.</li> </ul>	Formulation/ review of business flow/ operating procedure, provision of instructions on physical inventory check, and others
Procurement (the Subcontract Act)	<ul style="list-style-type: none"> <li>-Insufficient details provided on the order form (document set forth in Article 3)</li> <li>-There is a risk of delay in payment (within 60 days after receipt).</li> <li>-There is a risk of early deduction of the price of raw materials purchased by a subcontractor from the subcontract proceeds to be paid.</li> <li>-Violation of the provisions prohibiting reduction of subcontract proceeds (Reducing the amount of subcontract proceeds by the amount equivalent to that of discount commission where the payment is made in cash)</li> </ul>	Review of order form and supporting documentation, review of business flow, and others

## Policy and Actions Regarding Conflict Minerals

In line with our corporate social responsibilities, Komatsu does not condone the use of conflict materials produced by the Democratic Republic of Congo (DRC), or its neighbors (Angola, Republic of Burundi, Central African Republic, Republic of the Congo, Rwanda, South Sudan, Tanzania, Uganda and Zambia). We have informed our business partners of this policy through the Komatsu Green Procurement Guidelines. Working hand-in-hand with suppliers, we conducted a country-of-origin survey to determine the location of origin of our materials and to ensure that none of them are sourced from areas of conflict.

Moving forward, we will continue to take steps to enforce strict adherence to this policy, which will serve to restrict funding for military groups situated in such areas. Any conflict materials discovered to be within our supply chain will be immediately discontinued from use.

## Procurement Education in Human Resource Development

We have compiled basic matters that purchasing departments must not forget in promoting global procurement - in particular, the basic philosophy and code of conduct that should be kept in mind when working with business partners -- in the KOMATSU Way (Purchasing). In addition, we have been facing significant changes in laws and regulations of Japan and other countries on business transactions, employment and labor, environmental protection, export control and other matters. Responsible persons from the procurement department are required to understand these trends and reflect them appropriately in their daily procurement activities. At Komatsu, we strive to inform all employees of the trends by providing group training and e-learning designed for each one of the job classes, from new employees to managers.

## DATA

## Support Activities in FY2018

## Main Support Activities in FY2018

Field	Content	FY2018 results
Safety	Spot-checks (Safety patrol)	99 companies in Japan and 35 companies in China
	Mutual visits and spot-checks within subcommittee members	104 companies in Japan and 35 companies in China
	Risk assessment training	98 companies
	Reporting of safety activities at Komatsu safety and health meeting	4 companies in Japan and 1 company in China
Environment	Environmental survey (status of compliance with laws and regulations, and on-site check)	4 companies
	CO <sub>2</sub> reduction workshops	10 companies
	Activities for reducing water consumption	10 companies
Personnel Development	Acceptance of trainees for commissioned training	3 trainees from 3 companies
	Participation in the middle management training	2 participants from 2 companies
	Participation in Midori-kai managerial training	19 participants from 17 companies
	Participation in Midori-kai leader training	92 participants from 40 companies
	Participation in Midori-kai production engineer training	23 participants from 18 companies
	People enrolled in Komatsu Technical Institute	3 persons from 3 companies
	Participation in instructor training	22 participants from 14 companies
	TQM training	121 participants
	Management Salons	3 companies
	Participation in all-Komatsu QC competition	8 companies
ICT	Number of K-MICS PAD units mounted on machine tools of Midori-kai member companies	Cumulative total: 250 units
	Number of welding robots of Midori-kai member companies that are connected to KOM-MICS	Cumulative total: 134 units in Japan and 75 units overseas
BCP	Participation in Komatsu's BCP training as observers	10 participants from 8 companies
Compliance	Compliance and risk audits	8 companies
	Support for establishment of compliance system	5 companies
	Workshops on the revised Immigration Control and Refugee Recognition Act (specific skills)	140 participants from 79 companies
Internal Awareness-Raising Initiatives	Training for updating knowledge about the Subcontract Act (e-learning)	456 participants from the Procurement Division 929 participants from related divisions and companies



# CSR Procurement Guidelines

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## Komatsu Group CSR Procurement Guidelines : What we would like to ask our business partners in the supply chain

(Established on August 30, 2011; Revised on April 1, 2019)

### 1. Operations for Sound Management

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1. Build a system or operational structure designed to meet various risks.
2. Establish legal and transparent decision-making processes concerning management.
3. Conduct appropriate accounting procedures, tax filing and settlement of accounts.
4. Place importance on communication with stakeholders (customers, shareholders, business partners, employees, etc.).
5. Ensure that top management will be notified promptly when any abnormal condition develops and that your company will be able to promptly and accurately respond to the situation(s).
6. Fulfill accountability to society through active disclosure of corporate information.

### 2. Thorough Enforcement of Compliance

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1. Engage in business operations while complying with the laws and regulations, as well as the rules of the business community in the countries and regions where we conduct business operations. In addition, make efforts to respect internationally accepted standards.
2. Define a code of conduct, comprising company rules, under the leadership of senior management, and develop a corporate climate that places top priority on compliance.
3. Establish a compliance regime, in accordance with the scale and characteristics of the company, that prevents the company, executives, and employees from engaging in illegal conduct, and promptly addresses situations where issues have occurred (e.g. a whistle-blowing system)

### 3. Product Safety, QCD and Technology Innovation

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1. Comply with the laws and regulations concerning product safety and deliver products and services which will offer safety and peace of mind to customers.
2. In addition to maintaining the quality and cost competitiveness of products and services which your company delivers to customers, stand by the agreed upon date of delivery and supply your products in a stable manner.
3. Establish a quality management system and make efforts to maintain and improve it.
4. Constantly engage in technology development and provide innovative, safe and environmental-friendly products and services.

## 4. Considerations for the Environment

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1. Continue efforts to reduce environmental impact resulting from business operations.
2. Appropriately manage chemical substances contained in products.
3. Build up environmental management systems such as the ISO14000 series and "Eco Stage."

## 5. Measures to Respect Human Rights, Appropriate Labor Conditions and Occupational Safety and Health

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1. Respect human rights including the rights to freedom of association and collective bargaining.
2. Never get involved, directly or indirectly, in any child or forced labor.
3. Create a work environment where there is no discrimination or harassment in any aspect of employment.
4. Respect the rights of workers, through payment of fair wages and proper working hours management.
5. Establish a system for occupational labor health and safety, under the leadership of top management, and create a working environment where all employees can work safely and healthily.
6. Establish fair and equitable human resource system, and pay attention to human resource development and employee education as well.
7. Give consideration to improving communication between top management and employees.

## 6. Fair Business Practices

---

1. Comply with all related laws and regulations and engage in free and fair competition and business transactions.
2. Respect intellectual properties of other parties and work to prevent infringement thereof. Appropriately handle information (including personal information) of your company and other companies.
3. Never accept inappropriate cash, gifts or other favors.
4. Carry out proper foreign trade transactions (goods and technologies) while complying with the related laws and regulations.
5. Never have any relationship with antisocial forces or groups.

## 7. Social Contributions and Co-existence with the Local Community

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1. Engage in social contribution activities based on your company's management principle(s) and support employees' volunteer activities.
2. Place importance on co-existence with local communities which is the foundation of your business, and proactively support the growth of local communities.

## 8. Spread of the guidelines throughout the Entire Supply Chain

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1. Encourage business partners of the company to observe the items stipulated in the guidelines. Make efforts to encourage the spread of these guidelines into the entire supply chain.

\* These guidelines will be revised as needed.



## Environmental Risk Management

### Promoting Legal Compliance, and Pollution Mitigation and Prevention

Komatsu complies with national and local laws and regulations and ensures that it periodically reports and maintains measurement results.

In FY2018, there was one minor violation of environmental regulations (a fine of less than USD 10,000). At our business unit in Russia (KMR), the iron concentration in sewage effluent exceeded the standard. It has been solved by cleaning and improving maintenance. There were no major environmental accidents which might pollute the environment on the boundary of our site during this period.

### Addressing Soil and Groundwater Contamination

Komatsu has established guidelines for testing soil and groundwater, inspects any business unit that is scheduled to be sold, closed, or removed pursuant to laws and regulations, and takes purification measures upon confirmation by local authorities if contamination is discovered.

We voluntarily investigate business units in operation in order to test for contamination stemming from VOCs in cleaning solvents, etc. used in the past.

We have been surveying soil and groundwater for VOC contamination at domestic business units since 2005, and have implemented countermeasures at any sites that have been found to be contaminated. We use methods that facilitate the cleaning process in the shortest period of time possible.

Our clean-up of the Oyama Plant was completed in FY2009. We are continuing clean-up operations at other sites while checking the effect of our cleaning measures.

In January 2018, a low-concentration of PCBs was detected in the waste oil contained in a part of the soil on the premises of Komatsu Osaka Plant, which did not affect the ground water or flow out of the plant. We have added water-pumping facilities to improve oil removal and have been taking measures such as soil replacement.

We will continue to thoroughly clean-up and regularly monitor groundwater at site boundaries to ensure that there is no outflow of groundwater that has exceeded the standard outside the premises.

## Status of Soil and Groundwater Cleanup in Japan

Business unit	Cleanup method	Cleanup status
Awazu Plant	Excavation and removal, soil vapor extraction, groundwater withdrawal and aeration, bioremediation	In process
Komatsu Plant (former site)	Excavation and removal, groundwater withdrawal and aeration, bioremediation	In process
Osaka Plant	Soil vapor extraction, air sparging, groundwater withdrawal and aeration, bioremediation	In process
Shonan Plant	Excavation and removal, groundwater withdrawal and aeration	In process
Tochigi Plant	Excavation and removal, bioremediation	In process

\*1 Bio-remediation is a purification process whereby hazardous materials are purified using micro-organisms. This return the soil to a non-hazardous state.

\* Investigative surveys revealed zero contamination in the Koriyama Plant, Technology Innovation Center in Hiratsuka, Techno Center in Izu and Field Testing Department in Oita.

## Managing PCB (Polychlorinated Biphenyl) Waste

Komatsu stores and disposes of PCB-containing waste (such as transformers and fluorescent stabilizers) in accordance with the "Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes" and the "Waste Management and Public Cleansing Law". We intend to continue our appropriate treatment of PCB waste, including low-concentration PCB waste, according to our plan.

## Management of Chemical Substances and Pollution Prevention

### Reducing the amount of PRTR-related substances

In FY2018, the number of PRTR\* substances with a handling volume of 1 ton or more (0.5 tons or more for Class I Designated Chemical Substances) was 27, the same number as the previous year.

The PRTR substances xylene, ethyl benzene and toluene account for approximately 93% of the emissions from Komatsu and Komatsu Group production sites. Most of these emissions are released into the atmosphere.

In FY2018, the volume of xylene, ethyl benzene and toluene fell from FY2017 levels despite increased production volume due to the ongoing switch to coatings and thinners containing less PRTR Class I Designated Chemical Substances at each site.

We will continue to make efforts to switch to paints containing less PRTR Class I Designated Chemical Substances, introduce high solids

## Environmental Risk Management

thinners and paints, improve coating efficiency, and reduce coating film thickness. Emissions in FY2018 were reduced by about 5% from the previous year.

\* PRTR: Law designed to mandate the disclosure of the amount of specific chemical substances released into the environment to promote the management of such substances (The notification system based on the PRTR Law)

## Reducing VOC Emissions

The majority of VOC emissions are from VOCs contained in paint such as xylene and ethyl benzene.

Despite a slight increase in emissions in FY2018, we have managed to maintain a 50% reduction (as compared to FY2005) in the amount of VOC emissions per units of manufacturing value.



New Painting Line of Komatsu Cabtec

## Initiatives to Address Chinese Environmental Regulation

In China, from FY2017 plants started to be ordered to halt production as a measure against air pollution (PM in particular). For the regions where Komatsu operates manufacturing facilities, plant stoppage orders based on air pollution conditions began from 2017 in Jining District of Shandong Province and from 2018 in the Changzhou District of Jiangsu Province. In FY2018, the regulations were not enforced uniformly, and eased restrictions were applied to companies that had made progress in their environmental response. Komatsu's plants in China have made improvements including the installation of equipment to collect and process the soot produced from welding, and units to treat the VOCs produced by coatings. As a result, of Komatsu's four plants operating in the applicable regions, three plants were granted exemptions from the regulations, greatly reducing the number of days of halted operations. For the remaining one plant, in FY2019 we will make progress on improvements and obtaining certification in order to receive exemption from the regulations. In addition, Komatsu's plant in Shandong Province (KSC) invited around 80 affiliate companies and local companies to visit its premises for an environmental action exchange session in response to a proposal by the city government. An explanation of the details of Komatsu's environmental measures was met with high praise and is also contributing to environmental improvements in the region.

Environmental Risk Management

Measures against soot while welding: KSC (Jining, Shandong)  
(Fence that prevents soot from spreading, using a dust collector)



VOC\* treatment machine in the painting process: KSC (Jining, Shandong)  
\*VOC: Volatile organic compound (solvent for paint)

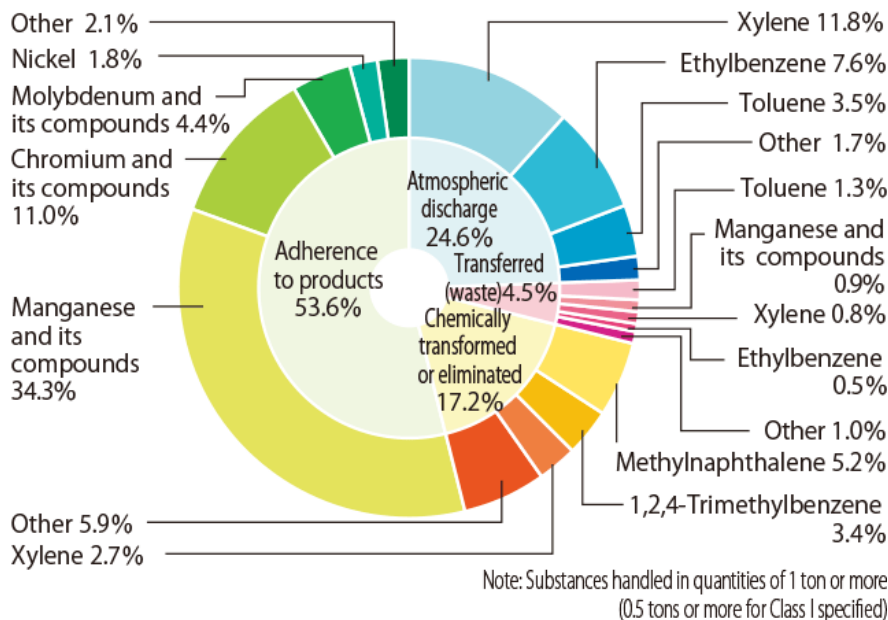


An environment-responsive networking event: KSC (Jining, Shandong)



## Breakdown of the Amount of PRTR-related Substances Released and Transferred from Komatsu Group Manufacturing Facilities in Japan

Independent Practitioner's Assurance

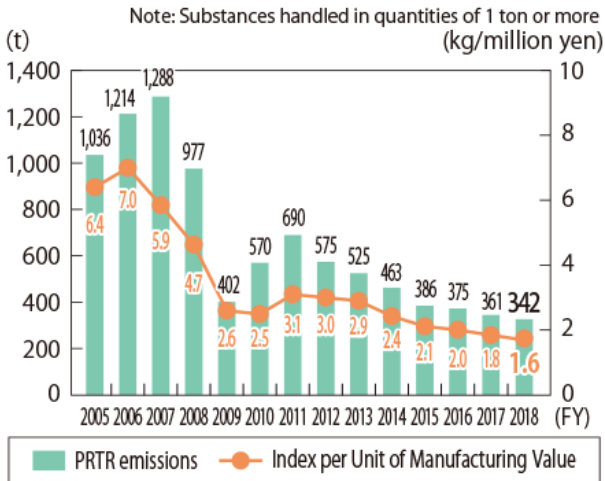


\* Totals may not match exactly due to rounded decimals in individual categories.

## Amount of PRTR-related Substances Released into the atmosphere

Independent Practitioner's Assurance

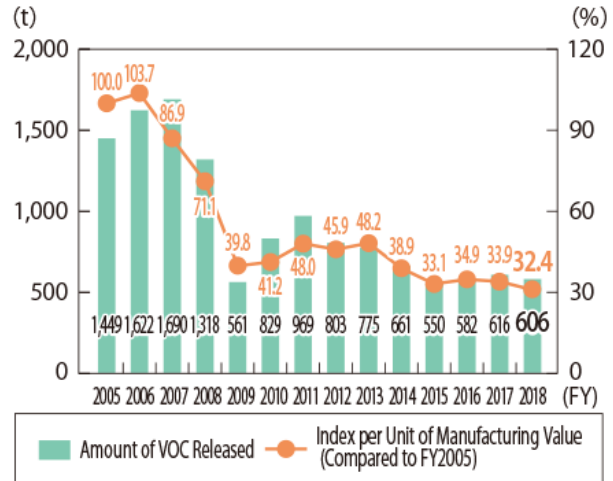
Komatsu Group Manufacturing Facilities in Japan



## Amount of VOC Released

Independent Practitioner's Assurance

Komatsu Group Manufacturing Facilities in Japan



## Reducing the Use of Substances of Environmental Concern and Complying with the EU REACH Regulation

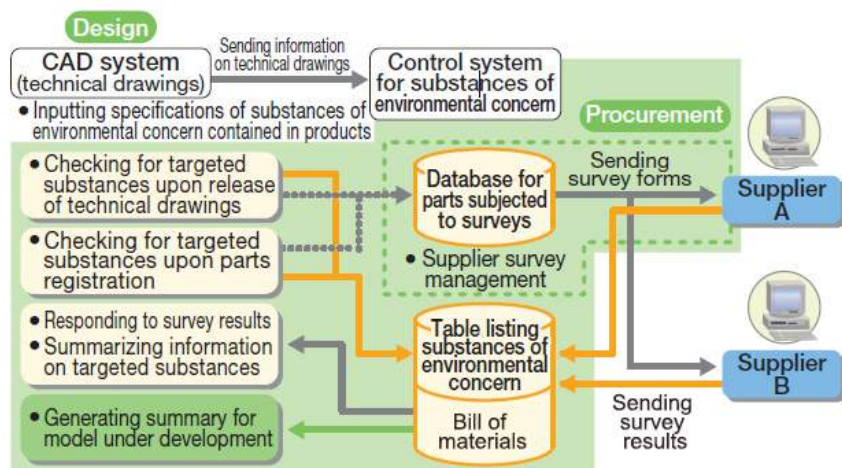
Komatsu is aware of the harmful environmental impacts that certain materials possess, and has made continuous efforts from an early stage to reduce the use of a number of such substances. These included asbestos, lead, and other such items. In FY1999, we created our own list of banned and limited-use substances ([Refer to “Substances of Environmental Concern Banned or to Be Reduced for Use in Products”](#)), which was based in part on Japanese legislation (Japanese Law Concerning the Examination and Regulation of Manufacture of Chemical Substances Control) that banned a number of chemical materials as well as regulatory measures in other countries.

We have also implemented more stringent measures in the control of substances that raise environmental concerns. In compliance with REACH\*1, we began revisions of our FY1999 listing of banned and limited-use substances. We have also collaborated with suppliers to create a regulatory system that strengthens control of potentially harmful materials being used for production. We have rolled this system out in Japan and Europe, with plans to continue implementation in other areas of operation.

Through the use of this system, we identify SVHC (substances of very high concern) in not only vehicles for export to the EU or produced at local EU companies, but also in vehicles currently in production and in newly developed vehicles. Furthermore, we also regularly check for new SVHCs to be added to the list.

There are currently 197 SVHCs registered, with the list being revised every six months. We expect this number to increase to about 1,500 in the future. We have also devised a workflow to monitor control of these substances.

## Control System for Substances of Environmental Concern



## Substances of Environmental Concern that are Banned, or are to see Reduced Use in Production

Rank	Number	Chemical Substance
Banned	17	<ul style="list-style-type: none"> <li>Hexavalent Chromium</li> <li>PBB/PBDE/HBCDD <sup>*3</sup></li> <li>PCB</li> <li>Trichloroethylene</li> <li>PFOS (Perfluorooctane sulfonate)</li> <li>Cadmium</li> <li>Tri-substituted Organostannic Compounds</li> <li>Asbestos</li> <li>Triethanolamine</li> <li>RCF (Fire-Resistant Ceramic Fibers) (Alumina and Scilica Types) <sup>*3</sup></li> <li>Mercury</li> <li>Sulfur Hexafluoride <sup>*3</sup></li> <li>Specified CFCs/Alternative CFCs (HCFC)</li> <li>Hexachlorobenzene</li> </ul>
To be reduced (Subject to limited use)	15	<ul style="list-style-type: none"> <li>Lead</li> <li>Alternative CFCs (HFC)</li> <li>Polycyclic Aromatic Hydrocarbons (PAH)</li> <li>BNST</li> <li>Arsenic</li> <li>Specified phthalate ester (DEHP/DBP/BBP/DIBP) <sup>*2</sup></li> <li>Methanol</li> <li>DOTe</li> <li>Selenium</li> <li>Specified Chlorinated Flame Retardents (TCEP)</li> <li>DZ</li> <li>UV327</li> </ul>
Substances of Very High Concern (SVHC) under EU REACH Regulations	(197) <sup>*4</sup>	<p>Komatsu controls the use of the following substances, which might be used in Komatsu products.</p> <ul style="list-style-type: none"> <li>DEHP/DBP/BBP/DIBP etc (5 substances)</li> <li>Specified Lead Compounds (4 substances)</li> <li>HBCDD/DBDE/ Triphosphates (2-Chloroethyl)</li> <li>DOTe</li> <li>RCF</li> <li>UV327</li> </ul>



Environmental Risk Management

- \*1 REACH: EU regulations for the Registration, Evaluation, Authorization and Restriction of Chemicals
- \*2 Diethylhexyl phthalate, dibutyl phthalate, benzyl butyl phthalate, diisobutyl phthalate
- \*3 Review for stricter limits due to regulatory trends.
- \*4 The number of substances registered up until April, 2019 (progressively updated). Includes materials that are not contained in Komatsu construction equipment.

# Water Risk Management

In accordance with our Earth Environment Charter, Komatsu Group has focused on two salient areas:

1. Promoting reductions in water-usage (input), and increasing the recycling (circulation) of water.
2. Activities centered on water quality conservation

However, in response to the frequency of weather abnormalities and societal demands (2015/1 Water Crisis named as the number one risk at Davos Forum etc.), Komatsu has established the “Water-Related Risk Evaluation Committee” in the second half of 2015. This committee engages in the study of water-related issues, and conducted a “Water-Related Risk Survey” after half a year of learning. This survey engaged both our domestic and foreign affiliates, seeking to understand business-related water impacts and improve upon Komatsu’s water policies.

To be more specific, we identified the risks that applied to Komatsu at our major operation bases by using 7 categories such as heavy rain, flood, drainage pollution, and scoring their probability of occurrence, difficulty in issue resolution, magnitude of impact, and more. In an addition, Aqueduct was used as a supplementary tool to objectively identify water risks.

## Results from the Water Related Risk Survey (conducted at 45 global affiliates/divisions in January 2016)



Komatsu Group Water-Related Risks:

1. Effect of heavy rain on operations/business
2. Risk of pollution from drainage

### 3. Effect of river flooding on the supply chain

Our water-related policies for FY2016 onwards have thus been changed to reflect the result of this survey. In addition to the continuation of previous initiatives and activities, we are now newly promoting “Water-Related Risk Reduction Activities” in order to minimize the impacts of water-related risks within our business operations.

## Domestic Case Studies (Oyama and Tochigi Plants)

We have initiated the construction of multiple safety measures against the risks imposed by heavy rain. These include the building of three reservoirs (capable of holding up to an hour's worth of 100mm/h rainfall), installation of heavy rainfall water pipes, the construction of underground reservoirs, and the widening of rainwater drainage ways. In addition to this, we have installed water block walls and stop bars to prevent water from flowing outside of the premises.

\* Our reservoirs also serve to alleviate the surrounding district's lack of drainage capacity.

Current Status of Reservoirs:

1. Oyama Plant 20,000 ton 10,000 ton and 4,000 ton reservoirs (completed)
2. Tochigi Plant 12,000 ton reservoir (under construction)

## International Case Studies (KI: Komatsu Indonesia)

The following measures have been implemented to prevent the entry of river flood water into KI premises.

1. Installation of concrete wall
2. Installation of emergency door for employees
3. Installation of floodgate
4. Installation of new drainage system
5. Installation of drainage gate
6. Installation of pump for floods

We have engaged elements of our supply chain to collaborate with our water-related risk initiatives. Our “Water-Related Risk Survey” was conducted at the operations of one of our main supply chain companies (Midori-kai). Komatsu is proud to report that as of FY2017, Midori-kai has begun collaborative efforts in our “Water-Related Risk Reduction Activities”.

## Compliance and Risk Audit at overseas group companies

Komatsu has been conducting planned compliance and risk audits (CR audits) since fiscal 2007 for risk prevention at overseas group companies.

## Environmental Audit of group companies in Indonesia and Brazil

In FY2018, we conducted environmental CR audits in Indonesia (KI, KUI) and Brazil (KDB, KRCC).

Our comprehensive auditing procedure begins with the assessment of a check sheet that our group companies. We then begin an audit of environmental activities and compliance to legislative regulations, supported by the chief of environmental matters of our main

## Environmental Risk Management

domestic plant. There were no major problems that would lead to environmental risks in both Indonesia and Brazil, and both were actively working on reducing environmental impact.

We continue to carry out follow-ups checks at areas where audits have already been completed, and plan to conduct further environmental audits of our group companies in other regions.



Environmental Audit at KRCC

### Past Environment Audits

Year	Area	Year	Area
2007	China	2013	United States
2008	—	2014	United States and Brazil
2009	Thailand and Indonesia	2015	Thailand
2010	India	2016	India and Indonesia
2011	Brazil	2017	Russia and China
2012	Russia and Czech Republic	2018	Indonesia and Brazil

## Environmental Activities in the Product Life Cycle (Upper and Lower Stage)

### Support for Sales and Service Divisions in Developing Environmental Management Systems

Komatsu also stays committed to safety and the environment in the activities of its sales and rental companies. To raise awareness about environmental management, in FY2018 we developed environment management systems and supported improvements mainly at our site workplaces.

#### Acquisition of ISO14001 Certification

On April 1, 2018, Komatsu Construction Equipment Sales and Service Japan, Komatsu Rental, and Komatsu Forklift Japan were merged into Komatsu Customer Support Co., Ltd. (hereinafter "KCSJ"). In FY2018, as KCSJ, we planned and carried out activities to acquire ISO14001 certification, an international standard for environmental management systems, by adding a lift division to our construction machinery sales division and rental division that had already acquired certification in FY2017. As planned, we acquired certification in May 2019 and all of our business divisions engage in a standardized effort for environmental improvement.

#### Activities Based on the Environmental Guidelines

We distribute our "Environmental Guidelines" to all of our sites, and follow the guidelines in pushing forward with our environmental activities. The guidelines summarize the rules and standards that should be observed at the workplaces of our sales and rental companies in compliance with the law and also to avoid negatively impacting neighbors in terms of waste disposal, wastewater treatment, control of noise and vibration and other problems deeply related to the environment. Representatives of Komatsu and a relevant company jointly visit our sites, provide guidance to on-site workers and develop proposals for improvement so that the environmental guidelines can be consistently complied with.



Workers receive environmental guidance at one of our site

#### Proper Discharge of Waste

Our construction machinery sales division introduced a waste management system which centralizes the management of electronic manifests, consignment contracts, permits and others to reduce management man-hours. The same system has also been introduced to our rental and lift divisions so that the companies of KCSJ can properly centralize the management of waste.

## Reduction of Environmental Impact in Our Regular Operations

### - Supporting the sale of environmentally friendly products -

We focus on promoting sales of eco-friendly machines developed by Komatsu such as hybrid construction machines, machines equipped with Tier 4 Final that clears emission regulations, battery forklifts, and aim to reduce the environmental impact through the original operations (sales and service). In addition, mainly rental division, KCSJ also locates IOT centers around the country for many users to visit and experience smart construction methods with the use of ICT construction machinery. In this way, we endeavor to enhance understanding about construction methods that minimize environmental impact and spread these methods.



A demonstration held at an IOT center

## Support for Suppliers in Environmental Activities

### Komatsu's Green Procurement Principles

To offer eco-friendly products to customers, Komatsu advocates eco-friendly green procurement principles for raw materials, procured components and parts that are important elements of production. In procurement, we give priority to products, parts, raw materials, secondary materials, equipment, construction, etc., that carry fewer environmental burdens.

In green procurement, we have the following two principles.

1. Preferentially procure goods and products with fewer burdens on the environment.
2. Implement activities that raise awareness about the environment by building an environmental management system for our main suppliers.

### Support for Suppliers in Constructing Environmental Management Systems

In order to bolster the strength of our supplier's environmental management systems (EMS), we have tasked Komatsu Midori-kai (which accounts for approximately 70% of our procurement) with obtaining certification for supplier EMS.

In FY2018, 156 companies (that are targeted for the acquisition of environmental management systems) acquired certifications such as ISO 14001 or Eco Stage, and are now engaged in the implementation of environmental management activities.

### Anti-Climate Change Project: Support for Suppliers in CO<sub>2</sub> Reduction

#### Supporting Midori-kai's CO<sub>2</sub> Reduction Activities

With the goal of facilitating suppliers' efforts to reduce CO<sub>2</sub> emissions, we are rolling out part of Komatsu's energy saving activities (50% reduction in energy consumption through production reforms) to major outsource suppliers.

From June 2012, we have continued to expand our initiatives, which had focused on energy-saving model companies, to also encompass production reforms. We have also initiated education programs for managers and facility personnel. The activities have continued and we have endeavored to visualize potential improvements for each company and to disseminate them over our suppliers.

## Support for Suppliers in Water Consumption Reduction Activities

To promote water consumption reduction activities amongst our suppliers, we have introduced our water use reduction initiatives to major outsource suppliers. From FY2017, we have visited and inspected ten selected model companies and given, on the spot, advice on improvement tailored to the companies' needs and circumstances. We still promote water consumption reduction activities today.



Water risk survey in FY2018



# Biodiversity

Recognizing the potential impact of our business activities on our ecosystem, we have taken steps to maintaining our commitment to protect biodiversity in our areas of operation.

## Initiatives that Deal with Biodiversity

With the establishment of Komatsu's "Declaration of Biodiversity" and "Biodiversity Guideline" in January 2011, Komatsu business units worldwide began activities designed to preserve biodiversity.

Komatsu promotes initiatives to preserve biodiversity on two levels.

First, the Company continues to promote ongoing efforts to reduce the environmental impact of Komatsu's business activities.

Komatsu also considers biodiversity when deciding how land is to be used, such as when building factories.

Second, Komatsu is becoming directly involved in the preservation of biodiversity, and at the same time expanding our "one-site, one-theme activities" to raise employee's awareness of the need to preserve local ecosystems.

### Declaration of Biodiversity by Komatsu

Komatsu recognizes that its business activities are dependent on and influence benefits from the ecosystem through its biodiversity.

Based on this understanding, Komatsu strives to take actions in accordance with the policies described below, as it shares a sense of responsibility regarding the biodiversity crisis, and strives to conserve diverse resources.

#### **I (Recognition by Management)**

Komatsu recognizes that conservation and promulgation of biodiversity are important management tasks.

#### **II (Initiatives)**

Komatsu shall promote biodiversity through the following two perspectives

1. Komatsu shall reduce its environmental impact, which is affecting biodiversity, through its business activities.
  - (1) Reduction of environmental impact of products
  - (2) Reduction of direct environmental impact from products throughout lifecycle.
  - (3) Consideration of biodiversity when using land.
2. Komatsu shall work for conservation and promulgation of biodiversity through its social contribution activities.

#### **III (Operation)**

Komatsu shall promote activities by means of a step-by-step approach.

#### **IV (Cooperation with the community)**

In order to protect the biodiversity rooted in regions, Komatsu will undertake activities in coalition with administrative agency, local citizens, NGOs and other entities; by doing so we aim become a corporation communities can be proud of.

#### **V (Full participation activities)**

## Biodiversity

Komatsu will promulgate the importance of biodiversity to all employees and undertake activities with their full participation. We will involve corporations related to the lifecycle of Komatsu products and representative agencies as well as customers in these activities and promote our initiatives on a global group-wide scale.

**VI (Communication)**

Communication: Komatsu will strive to educate and disclose related information to employees. In addition, Komatsu will actively disclose information on activities being undertaken and work to contribute in heightening the level of societal awareness on the importance of biodiversity.

## Initiatives from Specific Business Facilities (one-site, one-theme activities)

### BIODIVERSITY OF KOMATSU FROM BRAZIL (K. DO BRASIL LTDA)

Komatsu from Brazil is located in the town of Suzano, in the state of São Paulo, an industrial area of 633,00.00m<sup>2</sup> since 1975, currently counting with more than 95,000.00m<sup>2</sup> of built-up area. Throughout the years, along with the manufacturing area expansion, came the improvement of the environmental consciousness and the urge to promote actions in order to preserve the local Fauna and Flora, even though the company has been built in an industrial area, it owns a wide wooded area, sheltering a variety of animal species.

Brazil counts with six biomes: Amazon, Cerrado (savannas), Caatinga, Atlantic Forest, the Pampa and Pantanal. In 2013 it was made a technical survey to identify and characterize the Fauna and Flora where Komatsu is placed in, in order to increase the current area preservation level, in which it was found that Komatsu is inserted in the biome of Atlantic Forest, covered by vegetal formations integrated in the Vegetal Complex of the Atlantic Forest, we detected in this study that we have around 68 species of Fauna (mammals, birds, amphibians and reptiles) and 82 species of Flora (vegetation and trees), between the species identified in Flora there are some endangered and rare species like Pau-Brasil (Paubrasilia echinata) an emblematic tree of our country.

By knowing better the living biodiversity, with proper care and preservation of the special endangered species being reinforced, maintaining the trees inside their natural development conditions, controlling the manufacturing area expansion so that the impacts and vegetal suppression are minimized, as such as accidents between wild animals living in the area.

For the future we intend to expand our green area through a forest enrichment, focusing in insert in the industrial area the endangered species and the other fruitful species, since they are technically compatible to our climate and geological conditions, benefiting the native fauna habitat, especially the local birds and other birds in migration period. The process to the forest expansion in the company's area will count on a project of environmental education in which the employees will have



Pau-Brasil



GREEN AREA OF THE KOMATSU

## Biodiversity

contact to the planting of these trees, to conscious and stimulation of caring with the biodiversity inside out Komatsu, spreading these values to their families.

Besides the internal efforts of Komatsu to preserve and protect the local biodiversity, we will carry out the support to the city hall, through the donation of tree seedlings in adult stage of the fruitful trees, in order to work on reforestation of specific spots of the city, increasing the conditions to preservation of the native fauna, this project counts on a program of environmental education focused on children to young adults, in the moment of planting educators speak about the importance of local fauna and flora preservation.



Sagui do tufo branco (monkey)



Tucano do bico verde (toucan)

## Social Contribution Activities

138 Accomplishments and Approaches for Social Contribution Activities

---

140 Komatsu's Initiatives for the Social Issues

---

142 Developing People Needed by the Community

---

145 Disaster Relief

---

147 Clearing Anti-Personnel Landmines and Community Development Support

---

153 Promoting Sports—The Komatsu Women's Judo Club

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# Accomplishments and Approaches for Social Contribution Activities

While much of a business's responsibilities lie within the corporate sphere, it is nonetheless equally as important that a business take responsibility for local engagement within the social sphere. Komatsu is thus acutely aware of the importance for "Social Contribution Activities" that help nurture and develop the local communities in our areas of operation. We emphasize themes in our social contributions which utilize the business acumen and know-how that we have cultivated in our business operations. This in turn allows us to make use of our existing expertise to greatly increase the beneficial impact and reach of our contributory activities.

## Basic Approaches to Social Contribution (from "Komatsu's Worldwide Code of Business Conduct")

CSR (Corporate Social Responsibility) is a multi-faceted topic, of which specific elements pertaining to the different aspects of its implementation are subject to change according to country, region, or business practices. However, regardless of these variations, the underlying axioms that drive these initiatives remain the same: companies must co-exist in harmony with society, responding to expectations and building a relationship of mutual trust. As mentioned in other sections of this report, one of the principles that guides the Komatsu Group on a global scale is the understanding that Komatsu should fulfill its corporate social responsibilities through integration of CSR into our business operations. We further build on that belief by defining clear requirements for good corporate citizenship: a company should live up to societal expectations by promoting harmony and making real contributions for the benefit of the community in which it operates. Komatsu is proud to report that we live up to these high standards, and are proactively engaged in social contributory activities across multiple regions.

## 5 Basic Principles for Social Contribution (from "Komatsu's Worldwide Code of Business Conduct")

### Aims:

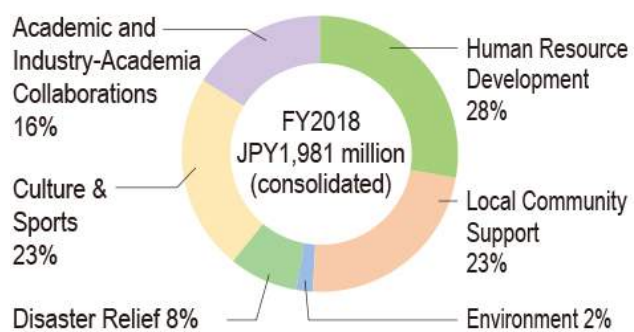
To clarify the responsibilities of Komatsu Group and its employees as members of the local community and guide their activities for social contribution accordingly.

### Principles: Activities for social contribution should:

- have continuity;
- be reasonable to employees; and
- contribute to the advancement of public welfare;
- not be designed to advertise our products or services.
- be voluntary (not forced);

## Social Contribution Expenditures of the Komatsu Group

We have divided and summarized the results of our social contributions into 6 general categories. These can be found in the infographic below:



### Type of Social Contribution Expenditure

(Millions of yen)

Cash contributions	528
Time contributions	445
In-kind giving	352
Management overheads	656
<b>Total</b>	<b>1,981</b>



## Komatsu's Initiatives for the Social Issues

There are various social issues in the world in each region.

As the Komatsu Group develops its business globally, we listen to the voices of people living in the various local communities in our areas of operation, and actively carry out support activities to improve the living standards. We consider conducting such social contribution activities as a responsibility of doing business around the world.

### Oceania

#### Employee engagement program for community support (Komatsu Group companies in Oceania)

In Oceania, Komatsu Australia (KAL) is playing a key role in an employee engagement program to support the resolution of various social issues which local communities are facing.

In this employee engagement program, called “Live Your Dream,” individual employees first explain local issues they are concerned about daily to the committee members and then come up with potential solutions against these problems. We are promoting the program to give each employee who is actively involved in this program an opportunity to consider solutions that contribute to the communities where we operate.

Once “dreams” are selected, activities are conducted in cooperation with local NPOs involved in the resolution of such issues. In the first year, 2018, a total of eight dreams, such as “Supporting mothers with antenatal and postnatal depression” and “Supporting children and their families living with autism” were implemented. While putting the highest priority to making contributions to local communities, we will continue to energize this program.



Fundraising for The Younger Heroes, an organization that supports veterans and their families



Activities with Full Circle, an NPO that supports children with autism and their families

### Brazil

#### Support for children who participated in World Judo Championships (Komatsu do Brasil & Komatsu Brasil International Ltda.)

In Brazil, the Komatsu Women's Judo Club held Judo classes and Judo events in 2015, 2016 and 2017. It came to our attention through a Judo club that participated in those Judo events that three children designated as representatives of Brazil for the under-13 category at the “Pan American Judo Championship” and “South American Judo

## Komatsu's Initiatives for the Social Issues

Championship” had difficulties overcoming financial issues and raising money for travel to participate in those championships.

In response to this, Komatsu do Brasil (KDB) and Komatsu Brasil International Ltda. (KBI) decided to donate travel expenses for the three representative athletes and presented flight tickets to them at the KDB building.

As a result, the championships ended with brilliant accomplishments: two of the athletes won Gold medals for both championships and one athlete won Gold and Bronze medals. When the athletes visited KDB again in December, they conveyed their joy and appreciation to us. Komatsu would like to continue to support them and watch their continued success in future too.



Flight tickets to Ecuador were presented



All three won Gold medals at the Pan American Judo Championship

## Japan

### On-site study tour of demining project in Cambodia (Komatsu Group companies in Japan)

Komatsu has been continually implementing demining and community development projects aiming for reconstruction since 2008. To let employees of the Komatsu Group experience the accomplishments of the activities we have performed in Cambodia, we held an employee engagement study tour for the first time in February 2019.

Many areas in Cambodia still have various types of landmines, and there is no end of victims injured by those threats. There are people who have to live in places even if they know there are landmines. We held this tour so that our employees can see, know and feel these situations in Cambodia. We also wanted the participants to touch upon Komatsu's demining machines in operation, and the operations of our impayable partner, Japan Mine Action Service, an approved specified non-profit organization that has been helping local communities for many years.

A total of thirty-nine participants visited several elementary schools built in demined areas. They repainted the school building with students and installed play equipment made of used tires on the school grounds. Throughout the six-day, five-night schedule, they enjoyed communicating with local people. We received a lot of happy comments from the local residents like “It’s much more convenient with the new wide roads! I use it every day” and “I am glad to have an elementary school in my neighborhood. I want children to study hard and get a good job.”



Demining site visit



Interview with residents who live in the demined areas

## Developing People Needed by the Community

When we asked ourselves: "What sort of social contribution activities would meet the needs of regional communities and make the best use of Komatsu's strengths?" We arrived at the answer: "developing people." We are working in cooperation with several entities such as national and local governments as well as schools, to carry out human resource development programs that are tailored to each region's needs and enable participants to acquire skills that will open up various employment opportunities.

### Various Areas and Forms of Support

#### Developing Human Resources Tailored to Regional Needs Worldwide

Using the skills and know-how cultivated through our core business, Komatsu supports the development of human resources that are needed not only within our company, but also in local communities.

Expectations for human resource development can vary greatly from community to community. At Komatsu, as we do business on a global scale, we make efforts to understand what each community needs and work on providing that support accordingly in various areas and in different forms.

The pyramid graph below shows the areas in which Komatsu is supporting human resource development. It also shows that the closer you get to the top of the pyramid, the more closely linked the program is with Komatsu businesses. The base of the pyramid shows our active support of activities such as science classes in elementary schools, mainly in different parts of Japan, USA and Europe. The next level up is to provide basic education, which consists of our support towards people who cannot or were not able to receive the level of education necessary to find employment, due to circumstances specific to their country or region. We currently run such programs in Chile and South Africa. At the next level, we support universities and vocational training schools in many regions by providing Komatsu's curriculum and equipment, as well as instructors. At the top of the pyramid, we are working with national and local governments and with our customers to develop human resources, particularly in regions where human resource development is a social challenge.

The actual content of the support includes dispatching instructors and trainers; providing educational materials, equipment and facilities; accepting apprentices; and various other means utilizing the full potential of our know-how.

#### Support for Developing Human Resources



## Developing People Needed by the Community

## Dispatching instructors



## Providing educational materials and equipment



## Providing facilities and supporting operations



## Accepting apprentices



## Collaboration with Cummins Inc.

We believe that collaborative CSR activities deliver more effective outcomes than those conducted alone, by sharing the people, know-how, and other resources of each company. In promoting social contribution activities in the past, Komatsu has collaborated with entities such as non-profit organizations that have their own unique know-how. In 2016, we agreed with our business partner, Cummins Inc. in the U.S., to collaborate in the field of local human resource development.

### Komatsu and Cummins' Common Objective

Komatsu and Cummins Inc., a major engine manufacturer in the U.S., have built a strong relationship of trust over the years as partners in the engine business. Both companies have already expended much energy into supporting human resource development in local communities as part of social contribution activities, and have already collaborated in several areas. One of the main programs is Technical Education for Communities (TEC). Both companies have partnered through contract to utilize their pool of resources and best practices, to expand the support of human resource development globally.

#### Cummins Profile

Corporate name	Cummins Inc.
Established	1919
Headquarters	Columbus, Indiana, U.S.
Business segments	Engine, Power systems, Components, Distribution
URL	<a href="http://www.cummins.com/">http://www.cummins.com/</a>



## Collaborative Development of the TEC Program - South Africa Case Study

TEC is a program of activities to provide students who major in mechanical and/or electrical engineering with a curriculum of technical and practical vocational training that takes advantage of the knowledge of both Komatsu and Cummins.

In FY2018, we finished preparation at Sedibeng TVET College in Johannesburg, South Africa, and started a three-year curriculum, accepting 31 students in May. In this curriculum, students learn how to maintain engines and operate construction/mining equipment through lectures and internships.

Through the TEC program, students acquire knowledge useful for practical operations, which increases job opportunities with favorable conditions and improves the sense of personal fulfillment. Also, in the long term, the increase in the number of skilled engineers will play an active part in local companies, including Komatsu Group companies. In turn, contribution to the entire local economy is expected.

The companies that have been playing a major role in promoting TEC in South Africa are Cummins Africa and Komatsu Africa Holdings (Pty) Ltd., a Komatsu Group company. In providing this curriculum, the company worked to dispatch dedicated instructors, provide educational materials such as cutaway models, and support the creation of the training curriculum. After the launch of the curriculum, the companies have been supporting the entire program continuously. Moving forward, Komatsu will deepen the collaboration with Cummins and promote the operation of TEC programs globally.



Students of Sedibeng TVET College and President Ohashi of Komatsu (current Chairman)



Discussion at "Safety" class

## Disaster Relief

Many of Komatsu's products (especially construction equipment) are vital for recovery and reconstruction in the wake of a natural disaster.

In the event of an emergency, we promptly grasp the local situation and support disaster recovery in a substantial way, such as providing equipment needed by the disaster area. As part of these efforts, we have initiated support activities using drones as well as construction machines. The latest activities are as follows:

### Reconstruction Support for Natural Disasters in Indonesia

In 2018, in response to the three large-scale natural disasters that hit various parts of Indonesia, the Komatsu Group companies in Indonesia provided support for reconstruction as follows:

- For the victims of the Lombok Earthquake that occurred twice in July and August, in addition to providing emergency relief goods such as 50 sets of tents, tarps, blankets, and 50 sets of food and beverages, we leased three Komatsu hydraulic excavators free of charge to the National Rescue Team. These support activities were conducted in coordination with the military, police, Ministry of Public Works and Housing and local residents.
- In response to the Sulawesi Earthquake that occurred in September (with tsunami and liquefaction), as a part of the emergency support for the victims, we supplied daily necessities to Sigi villages, the most isolated area, and supported the activities of the National Rescue Team. For this purpose, two Komatsu hydraulic excavators were lent free of charge. In addition, we constructed communal cooking grounds and three elementary schools (including facilities such as community library, staff rooms, restrooms, etc.).
- In addition to daily necessities supplied to Pandeglang and Kalianda, the most affected areas as part of the emergency relief for the Sunda Strait Tsunami that occurred in December, Komatsu's hydraulic excavators were used to support the activities of the National Rescue Team. Two units were lent free of charge. These machines were used for activities such as evacuation, land preparation and evacuation camp preparation under the management of the Ministry of Energy and Mineral Resources.



Hydraulic excavator in the Lombok Earthquake-stricken area



Construction site of an elementary school in Sulawesi

### Assistance for 2018 Japan Floods

As part of disaster restoration assistance through practical methods, Komatsu performs assistance activities not only with construction machinery but also with drones. To assist in the disaster response to the flood in western Japan that occurred in July 2018, Komatsu, in



## Disaster Relief

cooperation with OPTiM Corporation and Landlog Ltd., performed drone surveying without charge for municipalities aiming at a quick grasp of the damage situation.

Disaster areas have numerous hazardous zones that people cannot enter into due to landslides. Upon request from municipalities, the three companies delivered drones and their services to the disaster areas and quickly assessed damage by creating 3D landscape measurement data. This drone surveying was performed at dozens of disaster areas in Hiroshima, Okayama and other surrounding prefectures.

Because the method enabled safe and quick surveying without allocating human resources, it has been highly evaluated by the municipalities in terms of not only quick understanding of damage situation but also base data creation for disaster restoration.

## Roles of the three companies

- OPTiM** : Free dispatching of professional drone pilots who are registered in DRONE CONNECT, a drone pilot sharing service
- Landlog** : Free use of their data platform
- Komatsu** : Free use of EverydayDrone, a 3D current-status survey and measurement data creation service, and a smart construction app



EverydayDrone creates current-status survey measurement data in 3D

# Clearing Anti-Personnel Landmines and Community Development Support

Since 2008, Komatsu has been engaging in collaborative efforts with the Japan Mine Action Service (JMAS) to support the demining of anti-personnel landmines. In addition to removing mines, we also provide reconstruction work as part of a community development project. Through the technical expertise and manufacturing knowledge we have gained through our business operations, our equipment that excel in demining and reconstruction work have been playing important roles.

Our target is to transform landmine infested lands to safe lands, and further on to lands with value by constructing roads and facilities. Going forward, we will continue to promote activities that contribute to the recovery of the entire regions utilizing our construction machinery, which is Komatsu's main business.



Minefield in Cambodia



Landmine blast procedure

## DATA

### Results of Demining and Reconstruction Support Activities in Cambodia (Cumulative)

Item	Result (Cumulative Total by FY2018)
Demined area	2,028ha
Total removal count	1,924landmines
Road construction / maintenance	69.0km
Schools constructed	8 (which holds about 600 school children)
Ponds constructed	47

Clearing Anti-Personnel Landmines and Community Development Support



Komatsu's demining machine



"KOMATSU" bridge in Cambodia

We started support of unexploded bomb disposal activities in 2016 in Laos.

In Laos, about 36% of the land is riddled with unexploded bombs, many of which are cluster sub-munitions.

This is a problem on a massive scale, with children and farmers suffering bomb-related injuries on a yearly basis.

Komatsu plays its part by offering the necessary equipment to UXO-LAO (a Lao unexploded bomb disposal squad) and the Japan Mine Action Service (JMAS) free of charge, alongside engineering support for the machines it provides.

Following the success of the demining machine for anti-personnel landmines we have used Komatsu's past experiences and techniques to develop removal machines for processing unexploded ordnance based on hydraulic excavator PC130-8, and continue the disposal activities.

## DATA

### Results of unexploded ordnance removal in Laos (cumulative total)

Item	Result (Cumulative Total by FY2018)
Demined area	298ha
Total removal count	2,751 bombs



## Clearing Anti-Personnel Landmines and Community Development Support

Machine developed based on hydraulic excavator (for processing unexploded ordnance)

As part of the "Visiting Lecture" initiative, Komatsu employees visit schools in Japan and introduce these activities to a wide range of students from elementary to university levels. As of today, we have carried out lectures for about 5,500 students over a total of 60 times.

We had the pleasure to provide a "Visiting Lecture" at an elementary school for 6th graders. One of the students had this to say: "I heard KOMATSU's Story today. I realized that there were many landmines yet to be left and Komatsu helped remove landmines to move them somewhere safe. I was surprised to see that the machines Komatsu provided did not break, even after rolling over landmines. Please keep up the good work until all landmines have been removed in the world." Through this initiatives, Komatsu continues to nurture children, giving them opportunities to consider their future and ways of living.

地雷が本当に危険な物だということは前から知っています。でも改めて聞くと、私の知らなかったことが多くありました。私達は平和が日常になっています。学校に行くことがあたり前でめんどくさいということもありますが、しかし外国にはまだ地雷がたくさんあって、外に出ることも危険なのに、それを学校に行きたいと思っている子供達の話を知ると、私達は考えを改め直す必要があると思いました。

地雷の危険性を改めて知ることができた。日本は平和だけど他国はまだ危険だと知って、平和の大切さを学んだ。今後の技術発展によって多くの地雷がなくなれば良いと思う。子供たちが地雷によって手足をけがしてしまうのは残酷で悲しいことだ。地雷がなくなることによって道がつからなくなり、防護ができていない地雷があるのだと知った。地雷撤去に関わる人から話を聞き、とても重要なことを学ぶことができて大変な経験になった。

Letter from a junior high school first grader after a visiting lecture



Scene of a visiting lecture at a junior high school



## Efforts to remove anti-personnel landmines (past activities)



**Utilization of construction machine technology for landmine removal - Efforts to remove anti-personnel landmines -**

First model of the D85MS-15 demining machine being tested in Afghanistan

### Anti-personnel Landmines: A Semi-permanent Source of Terror

With the advent of numerous conflicts in various areas around the world, an enormous quantity of anti-personnel landmines came to be laid. Despite the restoration of peace in these conflict zones, the still-armed mines continue to be a massive threat. Un-deactivated mines claim over 20,000 victims annually, many of whom are ordinary people going about their daily lives or children playing in fields. The Ottawa Treaty was forged in 1999 in order to resolve this ongoing issue, which provides comprehensive prohibition of the use, stockpiling, production, and transfer of anti-personnel landmines. With this treaty being signed by over 150 nations (including Japan), we can see validated proof that momentum for the abolition of anti-personnel landmines has spread throughout Japan and the world. It takes an inordinate amount of time and meticulous attention to detect and remove anti-personnel landmines manually. Cambodia is an excellent example of this fact; of the 6 million landmines laid during the civil war, only about 350,000 have been destroyed in the 15 years after the end of the war (1992 to 2006, according to the Cambodia Mine Action Centre). Going by this rate of progress, the complete removal of landmines would require more than 240 years, which would continue to put both citizens and manual removal workers at great risk.

With this considered, Komatsu believes that using a machine for this manner of work would minimize the danger of potentially fatal accidents while dramatically increasing the speed and efficiency of mine removal. This would involve a demining machine that can crush or explode landmines buried near the surface by scratching at or pounding on the ground. Such a machine would often utilize a structure or functions that are similar to the chasses and attachments used by construction equipment. We are thus confident that the specialize technology and experience in manufacturing we have acquired through our business operations in manufacturing construction equipment will prove invaluable in the development of a demining machine for anti-personnel landmines that is both efficient and safe.



(left) An anti-personnel landmine has been discovered. Although it was laid almost 20 years ago, many of them are still explosive (Cambodia). (right) Workers from local NGOs continue to be engaged in extremely dangerous clearance operations (Afghanistan).

## Starting along the Path to Development

Back in 1998, Komatsu began development of machines to perform requisite pre-demining tasks, such as the removal of shrubbery. In 2002, the Japanese government approved exports of demining machines for anti-personnel landmines, and in 2003 Komatsu applied for the public offering of subsidies of Japan's Ministry of Economy, Trade and Industry and The New Energy and Industrial Technology Development Organization (NEDO), embarking on the full-scale development of demining machines. In December 2003, we completed the production of our prototype.

The base of the machine is a bulldozer with a chassis weight of about 27 tons. In addition to excellent reliability and durability, such a machine has the ability to cover rocky terrain, damp ground, and sloping land quickly and thereby clear even large areas effectively. Replacement parts are easy to obtain, and by changing the vehicle's front attachment, the machine can also be used as a bulldozer for ground leveling operations. It can be used in road construction work and other operations in the future.

Moreover, this machine features remote control technology for construction equipment that has been already proven to have practical applications in disaster recovery areas. Through remote operation, the operator's safety can be further enhanced.

Since many countries have now completely abolished the use of anti-personnel landmines, demonstration testing of demining machines' capabilities must take place in actual minefields. Komatsu has engaged in thorough testing of the capabilities of our developed machines in Afghanistan since 2004.

About 80% of Afghanistan's land is arid and mountainous, and during the long period of conflict approximately ten million anti-personnel landmines are estimated to have been laid around the country. Furthermore, antitank landmines can be found in minefields in addition to anti-personnel landmines. Demining machines must be able to withstand these even larger explosions while protecting their occupants, and must be able to extricate themselves from minefields safely. Tests to confirm the functionality and reliability of the vehicle were conducted repeatedly with great caution, also making use of remote operation technologies.

Field tests began in Cambodia in 2006. The objective was to verify the machine's capability to clear terrain, which, unlike Afghanistan, features mud flats and areas covered with bushes. The results of the testing showed great promise, with the Komatsu anti-personnel landmine demining machine succeeding in demonstrating clearance capabilities of 500 square meters per hour on average. This is from 25 to over 50 times the speed of manual clearance (although this varies according to conditions during the clearance operations). Operation of our demining machine for two or three days can produce one hectare of safe land. In Cambodia, converting that land into fields will enable two or three families to support themselves.



(left) Komatsu's demining machine for anti-personnel landmines rotates rollers with spikes attached (rotary cutters) to crush and explode anti-personnel landmines in the ground. It operates over a large area of land, tearing up bushes and weeds and transforming the land to look as if it were a field (Cambodia, 2006).

(right) Practicing wireless operations (Cambodia). The worker operates the machine from behind a protective shield.

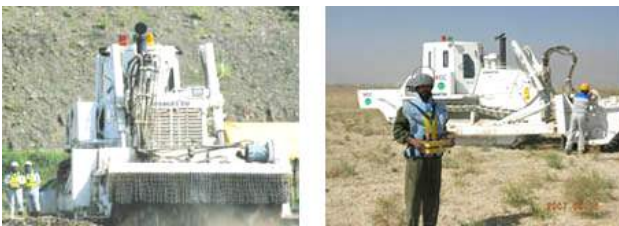


## The First Machine in Service

What is essential for safe and efficient antipersonnel landmine removal operations is not only the development of vehicles but also technical training of local operators of the equipment. In the spring of 2004, Komatsu invited people from landmine removal NGOs operating in Afghanistan to Japan for the first time and conducted technical training.

Through a single one of our demining machines, we have enhanced interaction among people centered on demining operations. In addition, through getting to know the countries now working towards reconstruction and interacting with the local communities, a new commitment has been born within Komatsu that drives us to redouble our already significant efforts.

The demining machine for anti-personnel landmines has had its capabilities and reliability thoroughly verified and has been deployed by a local NGO in Afghanistan through ODA funding from the Japanese government since September 2007.



(left) In May 2007, people involved in the clearing of landmines in Afghanistan were once again invited to Japan to participate in training. In Afghanistan, there are many people from NGOs who participate in the landmine removal program under the United Nations umbrella.  
(right) The first machine has been deployed by a local NGO in Afghanistan and it has been in use since September 2007.

## Further Efforts by Collaboration with JMAS

In January 2008, Komatsu and the Japan Mine Action Service (JMAS), a nonprofit organization of Japan, signed an agreement to jointly demine anti-personnel landmines in the contaminated regions and reconstruct local communities after demining. JMAS is a nonprofit organization staffed mainly by the retired individuals of Japan's Defense Agency. Owing to their previous vocation, these retirees are possessed of a wealth of technical expertise and experiences. Since 2002, JMAS has engaged in clearing landmines and unexploded ordnances (UXOs), as well as digging wells and providing educational programs. Its zealous efforts also include the provision of technical personnel in cooperation with the governments of Cambodia, Laos and Afghanistan. Komatsu believes that the combination of our demining machine technologies and JMAS' experiences and know-how should enable faster reconstruction of devastated local communities and thus make very effective social contributions.

Based on this agreement, the first reconstruction project for local communities was launched in Battambang, Cambodia in May 2008. Specific plans for this project call for our demining equipment to be rented at no cost to JMAS for speedy demining, and then, the safe development of agricultural land, digging of wells, building of schools, and repair and building of roadways and bridges. In addition to lending the demining machine and construction equipment required for use in building such infrastructure, at no cost, Komatsu has agreed to pay the operating expenses of 50 million yen and transportation cost to Cambodia. Komatsu will also supply replacement parts at no cost. For our next project, Komatsu is considering a reconstruction project in Africa. Komatsu positions community reconstruction (which begins with demining) as one of its core activities in social contribution. In addition to continuing this activity, Komatsu hopes to expand its efforts to other areas by collaborating with other companies, NGOs, governments, international organizations and local people.



Kunio Noji (left), President and CEO of Komatsu, and Mr. Mitsuo Nonaka, President of JMAS, at the signing ceremony (in 2008)

## Promoting Sports—The Komatsu Women's Judo Club

Founded in 1991 as part of social contribution activities during the 70th anniversary of the company founding, the Komatsu Women's Judo Club is celebrating its 28th year. Since its establishment, a total of 89 athletes have participated in competitions worldwide. The club has actively engaged in teaching judo at home and abroad, and in welcoming foreign judo competitors, with the goal to develop and popularize this sport.

### Results of Club Activities in FY2018

At the 2018 World Judo Championships held in Baku, Azerbaijan, Japanese athletes looking towards the upcoming Tokyo Olympics in 2020 achieved notable success. From Komatsu Women's Judo Club, Tsukasa Yoshida (57 kg-weight class), expecting to avenge her defeat at last year's World Championship where she finished with silver, won her first match by ippon using her brilliant newaza technique. In the semifinal, she defeated her rival from their junior years, Christa Deguchi (Canada), after extra time, advancing to the final round. In the final, she defeated Nekoda Smythe-Davis (U.K.) with the awase-waza technique, winning her long-sought gold medal and becoming number one in the world.



Yoshida showed overwhelming strength in the final



Yoshida defeated Deguchi after extra time in the semifinal

For Miku Tashiro, who competed in the 63 kg category, this championship was her comeback world match after undergoing surgery on her wrist after the Rio Olympics. Although she made it smoothly to the semifinal, she lost a close match to her rival Clarisse Agbegnenou (France) and ended with the silver medal. Yoko Ono made her first appearance in the world championship, competing in the 70 kg weight class. Although her energy and stamina brought her a number of victories, she ultimately settled for the bronze medal. Each of the athletes who participated in the individual tournament won medals of different colors.

Promoting Sports—The Komatsu Women's Judo Club



The athletes congratulate one another.



Victory against the winner of the gold medal at the Rio Olympics in the semifinal

Yoko Ono competed in the 70-kg division for her first time participating in the World Championships. Her power and stamina reliably won out through the matches, and she settled for the bronze medal in the end. All the players who participated in the individual tournament were able to win medals.



Yoko Ono won the bronze medal.



In her first appearance, she took home a medal.

In the mixed group tournament, the Japanese team was captained by Yoko Ono, the team's eldest, while Tsukasa Yoshida, who won the gold medal in the individual tournament, led the way. They both kept winning matches and led the Japanese team to their second consecutive victory.



Promoting Sports—The Komatsu Women's Judo Club



TEAM JAPAN achieved their second consecutive victory in the mixed group tournament



The cheerful members of the Japanese team showed great teamwork.



Yoko Ono raising the trophy



Tsukasa Yoshida, winner of the World Judo Masters (second from left)

In addition, Komatsu employees rushed to cheer on our representatives from countries around the world, such as France, Germany, Russia, Azerbaijan and China. In Tokyo, Fukuoka, Hyogo and Chiba, employees and their families from neighboring factories and sales offices within the area joined the cheering. Our support, which is worldwide, is helping not only to promote judo but also to strengthen a sense of corporate unity (global teamwork).

You can see details of the tournament records, player profiles, and more.

[> Komatsu Women's Judo Club](#)

## Social Contribution Activities through Judo

The Komatsu Women's Judo Club has continued to coach the Komatsu Kids Judo Club in Tokyo, while also directing and coaching judo classes around the world, including Japan, aiming to popularize this sport and train the next generation of judoka.

In FY2018, judo classes continued to be held mainly in areas where Komatsu production sites are located. One class in Yaroslavl, Russia, was held for the eighth consecutive year, with about 150 participants, mainly children aged from 6 to 15 years old. A judo class was held for the first time in Chicago, the United States. Although the sport is not as popular in the United States, about 150 elementary school children participated, including some who traveled four hours by bus to the class. In both countries, the participants trained diligently in sessions offering technical guidance and hands-on practice.

Promoting Sports—The Komatsu Women's Judo Club



Judo class in Yaroslavl



Judo championship in Chicago

Month	Place	Number of Participants
May	Hitachinaka (Ibaraki)	30
July	Chicago (United States)	150
September	Koriyama (Fukushima)	40
October	Yaroslavl (Russia)	150

## Environmental Performance Data

158 Environmental Education

---

161 Environmental Accounting

---

164 Site Data

---

165 Scope of Environmental Data

---

169 Independent Practitioner's Assurance on Environmental Report 2018

---

171 Amount of CO<sub>2</sub> Emissions by Scope3

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## Environmental Education

Komatsu is committed to employee education with regards to good environmental practices. Under our basic framework, provision of education is divided according to two unique categories according to type; Dissemination of common knowledge falls under the oversight of the Head Office, whereas specific vocational training is managed by respective divisions.

We focused on education for new development and upgrading of environmental internal auditors in FY2018. In addition, environmental laws and regulations refreshment education was conducted at production sites.

We have updated our FY2014 environmental education program for newly appointed managers, which is now conducted through an e-Learning platform.

Despite the fact that we already meet the legislatively mandated quota of personnel with environment-related certification, we intend to implement further training in order to increase this number.

### Courses in Environmental Education and Training in Japan (excluding general environmental courses)

Independent Practitioner's Assurance 

#### Head Office

No.	Course name	Target	Participants			
			FY2015	FY2016	FY2017	FY2018
1	Newly appointed manager training	Komatsu Group newly appointed managers	168	193	161	171
2	Training new employees	New Employees (Komatsu and affiliates)	333	322	329	369
3	Advanced environmental education (held every two years)	Environmental specialists (Komatsu and affiliates)	21	-	-	-
4	Overview of the ISO14000 series	Managers (Komatsu, affiliates, and business associates)	-	80	73	36
5	ISO14001 Standard Amendment (2015 Revision)	Stakeholders regarding ISO14001 amendment	281	79	-	-

## Environmental Education

No.	Course name	Target	Participants			
			FY2015	FY2016	FY2017	FY2018
6	Training of internal auditors / Refresher courses	Environmental auditors (Komatsu, affiliates, and business associates)	-	61	89	336
7	Explanation of environmental laws and risks	Managers and employees	-	-	-	250
8	Development and manufacturing (introductory)	Development and manufacturing staff (for second-year employees)	334	287	249	187
9	Environmental training for manufacturing engineers	Assistant foremen/ foremen/ manufacturing engineers/ students of Komatsu Institute of Technology	252	230	226	227
10	Lectures on the environment, experience-oriented education	Komatsu Group employees	2,729	1,662	1,796	627
11	Education to refresh environmental understanding (e-Learning)	Komatsu Group managers and employees	181	229	-	-

## Divisions overseeing environmental management at plants

Komatsu and Komatsu Group manufacturing facilities in Japan  
(including Technology Innovation Center, Field Testing Department)

No.	Course name	Target	Participants			
			FY2015	FY2016	FY2017	FY2018
1	Education in the basics of auditing	Managers and employees	185	120	90	169
2	Overview of the ISO14000 series	Managers and employees	996	1,093	559	502
3	Training of internal auditors	Environmental auditors	28	13	61	34
4	Training new employees	New Employees	1,618	1,270	1,866	1,759

## Environmental Education

No.	Course name	Target	Participants			
			FY2015	FY2016	FY2017	FY2018
5	Regulatory education and personnel exchange	Employees (and other participants)	467	217	835	510
6	Specialist training	Environmental conservation practitioners (persons involved in regulatory affairs, etc.)	428	435	328	464

\* In addition to the education and training courses listed above, Komatsu also held courses dealing with environmental issues intended for sales agents.

## Number of Persons Having Environment-related Certificate

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Komatsu and Komatsu Group manufacturing facilities in Japan  
(including Head office, Technology Innovation Center, Field Testing Department)

Certificate name	Number of persons with certificate*			
	FY2015	FY2016	FY2017	FY2018
Pollution control administrators	247 (31)	223 (31)	220 (35)	219 (35)
Energy administrators	41 (9)	41 (9)	39 (9)	41 (9)
Environmental management system auditors	4	2	2	5

\* Figures in parentheses indicate the number of officers required.

# Environmental Accounting

Komatsu fully reports on the content of our environmental accounting systems in order to obtain an objective and accurate evaluation of our environmental conservation activities.

## Environmental Costs (Investments and expenses)

Independent Practitioner's Assurance 

Komatsu and Komatsu Group manufacturing facilities in Japan  
(including Technology Innovation Center, Field Testing Department)

Category		Investment			Expenses		
		FY2017	FY2018		FY2017	FY2018	
		Investment *1 (millions of yen)	Investment *1 (millions of yen)	Contents	Expenses *1 (millions of yen)	Expenses *1 (millions of yen)	Contents
<b>1. Business area cost</b>		1,198	447		2,316	2,246	
Breakdown	(1). Pollution prevention cost	115	192	<ul style="list-style-type: none"> <li>Investment for installation and conversion of pollution mitigation / prevention facilities</li> </ul>	420	329	<ul style="list-style-type: none"> <li>Cost of maintaining equipment for mitigation / prevention of air and water pollution and for noise and vibration prevention (labor and depreciation costs)</li> </ul>
	(2). Global environmental conservation cost	1,052	139	<ul style="list-style-type: none"> <li>Investment for implementing energy conservation measures (installation of energy saving facilities, etc.)</li> </ul>	919	932	<ul style="list-style-type: none"> <li>Cost of maintaining energy conservation facilities, such as cogeneration systems (labor and depreciation costs)</li> </ul>
	(3). Resource circulation cost	31	116	<ul style="list-style-type: none"> <li>Investment for reducing the volume of waste materials</li> </ul>	977	985	<ul style="list-style-type: none"> <li>Waste material processing cost</li> </ul>

## Environmental Accounting

Category	Investment			Expenses		
	FY2017	FY2018		FY2017	FY2018	
	Investment *1 (millions of yen)	Investment *1 (millions of yen)	Contents	Expenses *1 (millions of yen)	Expenses *1 (millions of yen)	Contents
2. Upstream/ downstream cost	0	0	<ul style="list-style-type: none"> <li>Additional investment needed to provide eco-friendly product services</li> </ul>	307	241	<ul style="list-style-type: none"> <li>Reduction of the environmental impact of mass-production units</li> </ul>
3. Administration cost	21	0	<ul style="list-style-type: none"> <li>Investment for beautifying manufacturing sites</li> </ul>	790	775	<ul style="list-style-type: none"> <li>Cost of maintaining environmental management systems</li> <li>Cost of creating green spaces and beautifying manufacturing sites</li> </ul>
4. R&D cost	356	195	<ul style="list-style-type: none"> <li>Investment in research facilities for reduction of environmental impact</li> </ul>	19,514	16,224	<ul style="list-style-type: none"> <li>Cost of R&amp;D activities to reduce the environmental impact of products</li> <li>Cost of R&amp;D activities to develop environmentally-friendly construction equipment</li> </ul>
5. Social activity cost	0	0		17	39	
6. Environmental remediation cost	7	0		178	212	<ul style="list-style-type: none"> <li>Cost of conducting surveys and remedial countermeasures related to soil and groundwater contamination</li> <li>PCB disposal costs</li> </ul>
<b>Total</b>	<b>1,581</b>	<b>643</b>		<b>23,122</b>	<b>19,735</b>	

※1 All figures are rounded off to the nearest million yen.

## Environmental Effects

Independent Practitioner's Assurance 

### Environmental impact reduction effects

Komatsu and Komatsu Group manufacturing facilities in Japan  
(including Technology Innovation Center, Field Testing Department)

Items of environmental impact	Reduction amount (t/year)	Rate of year-on-year changes (%)
CO <sub>2</sub> emissions	3,841	1.9
Water consumption	-410,408	-12.4
Waste materials generation	1,926	11.8

### Economic benefits

Komatsu and Komatsu Group manufacturing facilities in Japan  
(including Technology Innovation Center, Field Testing Department)

Tangible benefits			Avoidance benefits of environmental risks*2	Contribution to profits*2
Type	Monetary value*1 (millions of yen)	Major activities		
Energy conservation	336	Installation of energy-saving facilities	* In FY2018, there were no major accidents or legal infractions that would contaminate the environment. * No litigation costs were required in Japan during FY2018.	<ul style="list-style-type: none"> <li>■ Proceeds from mobile recycling equipment</li> <li>■ Proceeds from value added due to reduced environmental impact of products (engines)</li> </ul>
Resource conservation	34	Saving heating and cooling cost by biomass utilisation		
Waste materials reduction	44	Promotion of recycling through thoroughgoing sorting		
Gain on sale of valuables	429	Sale of scrap, used paper, waste oil, etc.		
Other	7	-		
<b>Total</b>	<b>850</b>			

\*1 Figures are rounded off to the nearest million yen.

\*2 Komatsu used statements instead of numeral figures to describe the "Avoidance benefits of environmental risks" and the "Contribution to profits". We will give further consideration to the interpretation and the understanding of efficiency. The sales amounts of businesses for content presented in "Contributions to profits" in FY2018 are as follows:

- **Mobile recycling equipment business**

2.3 billion yen

- **Engine business**

199.7 billion yen

(Total for intra-Group sales from the Engine Business Division)

## Effects on Society \*1

### Environmental impact reduction effects

- Environmental impact reduction resulting from on-site recycling methods
- Environmental impact reduction resulting from product operation
- Waste components reduction resulting from "Reman" business

### Tangible benefits

- Reduction of expenses for processing waste materials
- Savings in operating and maintenance costs
- Reduction of repair costs

\*1 We are aware of the potential impacts on society that could arise from the use of our products. Qualitative information regarding the most significant effects are referenced here.



## Site Data

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Independent Practitioner's Assurance 

### Japan

[> Site Data \(Japan\) \(2.83MB\) !\[\]\(95b425611cbd2b8716a140cf67c81822\_img.jpg\)](#)

- Awazu Plant
- Osaka Plant
- Oyama Plant
- Koriyama Plant
- Himi Plant
- Komatsu NTC Ltd.
- Komatsu Construction Equipment Sales and Service Japan Ltd.
- Kanazawa Plant
- Ibaraki Plant
- Tochigi Plant
- Shonan Plant
- Development Division, Technology Innovation Center
- Komatsu Cabtec Co., Ltd.

### Overseas

[> Site Data \(Overseas\) \(644KB\) !\[\]\(3342c215b2a8b663596a81468d5dc314\_img.jpg\)](#)

- The Americas
- Asia
- Europe

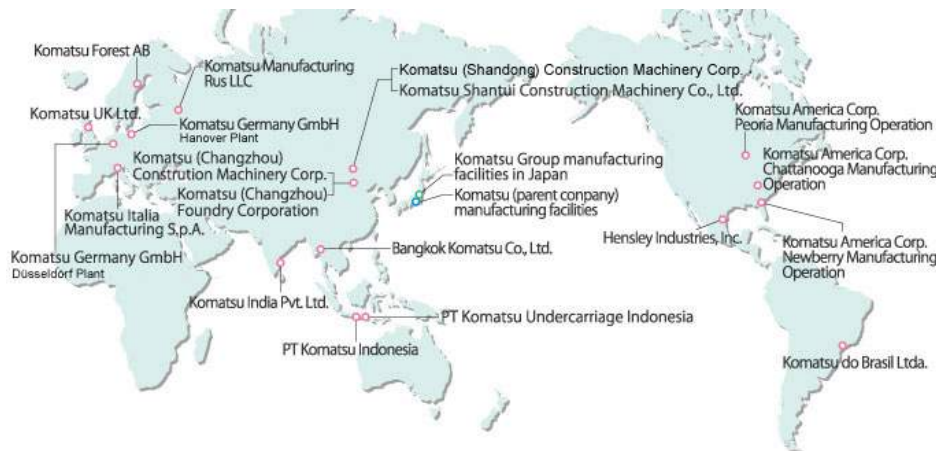
## Scope of Environmental Data

### Komatsu Group Manufacturing Facilities in Japan

- Komatsu (parent company) manufacturing facilities, with a focus on the following nine plants  
Awazu Plant, Kanazawa Plant [including Kanazawa-Daiichi Plant and Kanazawa-Daini Plant], Osaka Plant [including Rokko Plant], Ibaraki Plant, Oyama Plant [including Komatsu Cummins Engine Co., Ltd., Industrial Power Alliance Ltd. and GIGAPHOTON, Inc.], Koriyama Plant, Shonan Plant [including KELK Ltd.], Tochigi Plant, and Himi Plant.
- Komatsu Group manufacturing facilities in Japan, with a focus on the aforementioned nine plants and the following two business units  
Komatsu Cabtec Co., Ltd., Komatsu NTC Ltd.

### Komatsu Group Manufacturing Facilities Outside Japan

- Komatsu Group manufacturing facilities outside Japan, specifically the 19 business units appearing on the world map below.



- Komatsu Group manufacturing facilities, both foreign and domestic: Pertaining to all 30 of the offices mentioned above.

## Guidelines

- “Environmental Report Guidelines 2018” (Ministry of the Environment of Japan)
- Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain Ver 2.3 (Ministry of the Environment and Ministry of the Economy, Trade and Industry of Japan)
- Database on Emissions Intensities for Calculating Greenhouse Gas Emissions, etc. through a Supply Chain Ver. 2.6 (Ministry of the Environment and Ministry of the Economy, Trade and Industry of Japan)

## GRI Standards

See the GRI content index

\* Global Reporting Initiative

[> GRI Standards INDEX](#)

## Period Covered

Primarily, this report covers data acquired from April 2018 to the end of March 2019, with a portion of information that involves data acquired after April 2019.

## Calculation base of typical environmental data

Classification	Item	Calculation Method
GHG Energy	Energy	Energy = (fuel, electric energy, etc.) x energy conversion factor <ul style="list-style-type: none"> <li>▪ Fuels (other than biomass), conversion coefficient of electric power: standard heating value of the Agency for Natural Resources and Energy (Domestic 2013, value overseas 1999)</li> <li>▪ Biomass fuel: National Woodchips Industry Association (Japan)</li> <li>▪ Regional heat: site reported value (1.54 GJ / MWh)</li> <li>▪ Steam: Site report value (4.19 GJ / t)</li> </ul>
	GHG	Energy originated CO <sub>2</sub> = (fuel quantity, electricity quantity) x CO <sub>2</sub> emission factor Non-energy originated GHG = Gas emissions x Global warming potential (GWP) <ul style="list-style-type: none"> <li>▪ CO<sub>2</sub>emission factor                Electricity: Japan; Ministry of the Environment Environmental activity evaluation program - Eco Action 21 (1998)                Overseas; 2005 value of IEA CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTION 2010                Fuel: Japan, Overseas; Ministry of the Environment, Ministry of Economy, Trade and Industry, Greenhouse gas emissions calculation and report manual</li> <li>▪ GWP: Value of greenhouse gas emissions calculation, reporting and publication system</li> </ul>
	Energy, CO <sub>2</sub> emission intensity unit	Index = (energy, CO <sub>2</sub> ) / (production amount), index is a value with base year 100. Base year: Japan 2000, Overseas 2010

## Scope of Environmental Data

Classification	Item	Calculation Method	
	Location-based Scope 2	CO <sub>2</sub> emission = purchased electricity quantity x CO <sub>2</sub> emission factor <ul style="list-style-type: none"> <li>CO<sub>2</sub> emission factor: Japan; Ministry of the Environment, Ministry of Economy, Trade and Industry Emission Factor by Electric Utility Substitution Value Overseas; 2010 value of IEA CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTION 2012</li> </ul>	
	Market-based Scope 2	CO <sub>2</sub> emission = purchased electricity quantity x CO <sub>2</sub> emission factor <ul style="list-style-type: none"> <li>CO<sub>2</sub> emission factor: Japan; Emission Factor by Electric Power Company Overseas; 2010 value of IEA CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTION 2012 However, the electricity generated from renewable energy source has zero emission factors</li> </ul>	
	Scope3	C1	Purchased product service: Product weight x emission factor + cooperating company CO <sub>2</sub> emission amounts
		C2	Capital goods: capital investment amount x emission factor
		C3	Fuels and energy related activities not included in Scope 1 and 2: fuel quantity purchased x emission factor on the upstream side + purchased electric energy amount x upstream side emission factor
		C4	Transportation, Delivery (upstream): Fuel consumption (amount) x Emission factor (coefficient according to Komatsu actual result survey)
		C5	Waste from project: Waste volume x Emission factor (coefficient according to Komatsu performance survey)
		C6	Business trip: travel expenses x emission factor
		C7	Employer commuting: commuting expenses x emission factor
		C9	Downstream transport: transport volume x emission factor
		C11	Use of products sold: $\Sigma$ (Production volume per product model x Fuel consumption x Product life)
		C12	Disposal of products sold: Product weight x Emission factor
		Emission factor Power of C1/C2/C3, C6/C7/C12: Emission intensity unit database (Ver 2.6) for calculating greenhouse gas emissions of organizations through the supply chain of the Ministry of the Environment C3 Fuel: Carbon Footprint Communication Program Basic Database (Ver 1.01) C9: Ministry of Economy, Trade and Industry • Ministry of Land, Infrastructure, Transport and Tourism Guidelines for Estimating CO <sub>2</sub> Emissions in the Logistics Field	
Exhaust	Sox Emissions	Total for heavy oil, kerosene, light oil and coke: Calculated from fuel quantity x sulfur content in fuel	
	NOx Emissions	Total for heavy oil, kerosene, light oil, city gas, and LPG: Calculated from Exhaust gas quantity x NOx concentration	
Drainage	BOD Emissions	Calculated from Wastewater x BOD Average Concentration Measurement Value	
	COD Emissions	Calculated from Wastewater x COD average concentration measured value	

## Main data, ISO 14001 certification acquisition coverage

The coverage rate of main data and ISO 14001 was calculated using the number of people as an index. (However, KMC is not included.)

### 1. Main data coverage

Data coverage rate at production sites: 96%

### 2. ISO 14001 certification acquisition coverage

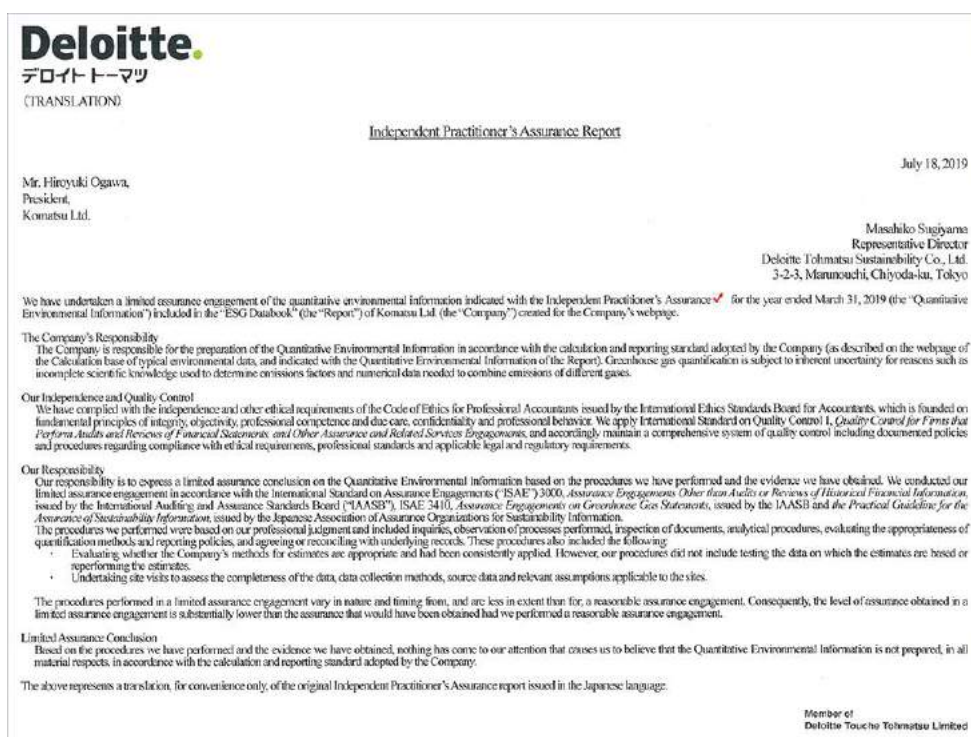
ISO 14001 certification acquisition coverage rate at production sites: 100%

# Independent Practitioner's Assurance

## Regarding the Issuance of ESG Databook

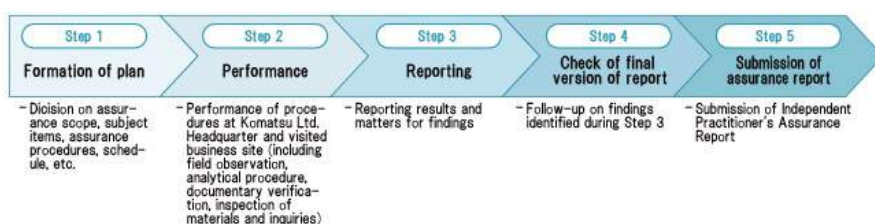
Komatsu views an independent practitioner's assurance process as crucial for ensuring the integrity and objectivity of its ESG Databook. For this reason, Komatsu has received an independent practitioner's assurance from Deloitte Tohmatsu Sustainability Co., Ltd., an affiliate of the Deloitte Touche Tohmatsu LLC.

» [Deloitte Tohmatsu Sustainability Co., Ltd.](#) 



## Supplementary Explanation regarding the Conducting of Independent Practitioner's Assurance

### Supplementary explanation regarding independent practitioner's assurance procedures






## Supplementary Explanation regarding site visits to business units

1. Business units visited in this review
  - (1) Komatsu Ltd. Head Office
  - (2) Komatsu Ltd. Oyama Plant
2. Visited to business units take place in a planned rotation. Records for business units not visited during this review were reviewed at the Komatsu Ltd. Head Office.




Executing a review at the Head Office

## Points of an Independent Practitioner's Assurance

Komatsu has received an independent practitioner's assurance from Deloitte Tohmatsu Sustainability Co., Ltd. for this Web data, which is marked by the independent practitioner's assurance logo  where appropriate.

## Amount of CO<sub>2</sub> Emissions by Scope3

Independent Practitioner's Assurance 

Category	Rate (%)	Summary Data kt-CO <sub>2</sub>
Scope3 (11)Customer Use	88.7	26,419
Scope3 (1)Manufacturing of Purchasable Goods	9.6	2,871
Scope3 (2)Capital Goods Construction and others	0.5	143
Scope3 (3)Fuel Procurement	0.5	140
Scope3 (4)Upstream Transportation disposal	0.1	36
Scope3 (5)Waste Transportation	0.1	16
Scope3 (6)Business Trips	0.1	42
Scope3 (7)Commuting	0.1	25
Scope3 (8)Upstream Leased Assets Operation	0	0
Scope3 (9)Downstream Transportation	0.2	58
Scope3 (10)Processing Sold Products	0	0
Scope3 (12)Product disposal	0.1	17
Scope3 (13)Downstream Leased Assets Operation	-	-
Scope3 (14)Franchise Member Companies	0	0
Scope3 (15)Investment Management	0	0
<b>Total CO<sub>2</sub>Emission Amount (kt-CO<sub>2</sub>/year)</b>	<b>100.0</b>	<b>29,769</b>

Note: When the figures in each category are rounded or truncated . the amount may not  
Coincide with the aggregate of the relevant figures.

## GRI STANDARDS INDEX

The ESG Databook 2019 references "GRI Sustainability Reporting Standards".

### 100 series (Universal)

Aspects	Indicators	Description	Reference
Organizational Profile	102-1	Name of the organization	› <a href="#">Company Info: Corporate Profile</a>
	102-2	Activities, brands, products, and services	› <a href="#">Company Info: Corporate Profile</a> › <a href="#">Company Info, Products and Applications</a> › <a href="#">Company Info, Technology and Innovation</a>
	102-3	Location of headquarters	› <a href="#">Company Info: Corporate Profile</a>
	102-4	Location of operations	› <a href="#">Company Info, Global Operations</a> › <a href="#">ESG Databook: Strengthening Our Gemba Capability (Dispatching Technicians from Japan)</a> › <a href="#">ESG Databook: Initiatives for Social Issues</a>
	102-5	Ownership and legal form	› <a href="#">Company Info: Corporate Profile</a>
	102-6	Markets served	› <a href="#">Company Info, Global Operations</a>
	102-7	Scale of the organization	› <a href="#">Company Info: Corporate Profile</a>
	102-8	Information on employees and other workers	› <a href="#">ESG Databook: Personnel Policy and Performance Appraisal System</a>
	102-9	Supply chain	› <a href="#">ESG Databook: CSR Initiatives in the Supply Chain - Support for CSR Initiatives of Business Partners -</a>

Aspects	Indicators	Description	Reference
	102-10	Significant changes to the organization and its supply chain	
	102-11	Precautionary Principle or approach	<ul style="list-style-type: none"> <li>› Investor Relations: Corporate Governance</li> <li>› ESG Databook: Risk Management</li> <li>› ESG Databook: Compliance</li> <li>› ESG Databook: Promoting Legal Compliance, and Pollution Mitigation and Prevention</li> <li>› ESG Databook: Management of Chemical Substances and Pollution Prevention</li> </ul>
	102-12	External initiatives	
	102-13	Membership of associations	
Strategy	102-14	Statement from senior decision-maker	<ul style="list-style-type: none"> <li>› ESG Databook: Message from Top Management</li> <li>› Investor Relations: President interview</li> </ul>
	102-15	Key impacts, risks, and opportunities	<ul style="list-style-type: none"> <li>› ESG Databook: Risk Management</li> </ul>
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	<ul style="list-style-type: none"> <li>› Company Info, Komatsu's Worldwide Code of Business Conduct</li> <li>› ESG Databook: Compliance</li> <li>› ESG Databook: The KOMATSU Way</li> </ul>
	102-17	Mechanisms for advice and concerns about ethics	<ul style="list-style-type: none"> <li>› ESG Databook: Compliance</li> </ul>
Governance	102-18	Governance structure	<ul style="list-style-type: none"> <li>› Investor Relations: Corporate Governance</li> <li>› ESG Databook: Organization to Promote CSR</li> <li>› ESG Databook: Organizational Chart of the Environmental Management Structure</li> </ul>
	102-19	Delegating authority	<ul style="list-style-type: none"> <li>› ESG Databook: Organization to Promote CSR</li> <li>› ESG Databook: Organizational Chart of the Environmental Management Structure</li> </ul>
	102-20	Executive-level responsibility for economic, environmental, and social topics	<ul style="list-style-type: none"> <li>› ESG Databook: Organization to Promote CSR</li> <li>› ESG Databook: Organizational Chart of the Environmental Management Structure</li> </ul>

Aspects	Indicators	Description	Reference
	102-21	Consulting stakeholders on economic, environmental, and social topics	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Organization to Promote CSR</a></li> <li>› <a href="#">ESG Databook: Dialogue with Our Stakeholders</a></li> </ul>
	102-22	Composition of the highest governance body and its committees	<ul style="list-style-type: none"> <li>› <a href="#">Company Info: Directors, Auditors and Officers</a></li> <li>› <a href="#">Investor Relations: Corporate Governance</a></li> </ul>
	102-23	Chair of the highest governance body	<ul style="list-style-type: none"> <li>› <a href="#">Investor Relations: Corporate Governance</a></li> </ul>
	102-24	Nominating and selecting the highest governance body	<ul style="list-style-type: none"> <li>› <a href="#">Corporate Governance ReportPDF</a></li> </ul>
	102-25	Conflicts of interest	<ul style="list-style-type: none"> <li>› <a href="#">Company Info, Komatsu's Worldwide Code of Business Conduct</a></li> </ul>
	102-26	Role of highest governance body in setting purpose, values, and strategy	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Organization to Promote CSR</a></li> </ul>
	102-27	Collective knowledge of highest governance body	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Organization</a></li> </ul>
	102-28	Evaluating the highest governance body's performance	<ul style="list-style-type: none"> <li>› <a href="#">Corporate Governance ReportPDF</a></li> </ul>
	102-29	Identifying and managing economic, environmental, and social impacts	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Formulating CSR Themes (Materiality)</a></li> </ul>
	102-30	Effectiveness of risk management processes	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Risk Management</a></li> </ul>
	102-31	Review of economic, environmental, and social topics	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Risk Management</a></li> </ul>

Aspects	Indicators	Description	Reference
	102-32	Highest governance body's role in sustainability reporting	› ESG Databook: Organization to Promote CSR
	102-33	Communicating critical concerns	› ESG Databook: Risk Management
	102-34	Nature and total number of critical concerns	
	102-35	Remuneration policies	› Annual Securities Report : CompensationPDF
	102-36	Process for determining remuneration	› Annual Securities Report : CompensationPDF
	102-37	Stakeholders' involvement in remuneration	
	102-38	Annual total compensation ratio	
	102-39	Percentage increase in annual total compensation ratio	
	Stakeholder Engagement	102-40	List of stakeholder groups
102-41		Collective bargaining agreements	› ESG Databook: Personnel Policy and Performance Appraisal System
102-42		Identifying and selecting stakeholders	› ESG Databook: Dialogue with Our Stakeholders
102-43		Approach to stakeholder engagement	
102-44		Key topics and concerns raised	



Aspects	Indicators	Description	Reference
Reporting Practice	102-45	Entities included in the consolidated financial statements	<ul style="list-style-type: none"> <li>› <a href="#">Annual Securities Report: Overview of Subsidiaries and AffiliatesPDF</a></li> <li>› <a href="#">Company Info, Subsidiaries and Affiliates</a></li> </ul>
	102-46	Defining report content and topic Boundaries	› <a href="#">ESG Databook: Formulating CSR Themes (Materiality)</a>
	102-47	List of material topics	
	102-48	Restatements of information	
	102-49	Changes in reporting	
Report Profile	102-50	Reporting period	› <a href="#">ESG Databook: Editorial Policy</a>
	102-51	Date of most recent report	
	102-52	Reporting cycle	
	102-53	Contact point for questions regarding the report	› <a href="#">ESG Databook: Editorial Policy</a>
	102-54	Claims of reporting in accordance with the GRI Standards	
	102-55	GRI content index	GRI STANDARDS INDEX
	102-56	External assurance	› <a href="#">ESG Databook: Independent Practitioner's Assurance</a>
Management Approach	103-1	Explanation of the material topic and its Boundary	› <a href="#">ESG Databook: Formulating CSR Themes (Materiality)</a>
	103-2	The management approach and its components	› <a href="#">ESG Databook: Formulating CSR Themes (Materiality)</a>
	103-3	Evaluation of the management approach	› <a href="#">ESG Databook: Formulating CSR Themes (Materiality)</a>

## 200 series (Economic topics)

Aspects	Indicators	Description	Reference
Economic Performance	201-1	Direct economic value generated and distributed	<ul style="list-style-type: none"> <li>› ESG Databook: Personnel Policy and Performance Appraisal System (remuneration data)</li> <li>› ESG Databook: Enhancing Work-Life Balance (Work-Life Balance Data)</li> <li>› Annual Securities Report: Income TaxesPDF</li> <li>› ESG Databook: Developing People Needed by the Community</li> <li>› ESG Databook: Initiatives for Social Issues</li> <li>› ESG Databook: Disaster Relief</li> </ul>
	201-2	Financial implications and other risks and opportunities due to climate change	<ul style="list-style-type: none"> <li>› ESG Databook: Mitigating Climate Change through Products and Services</li> <li>› ESG Databook: Initiatives to Mitigate Climate Change in Business Operations</li> </ul>
	201-3	Defined benefit plan obligations and other retirement plans	<ul style="list-style-type: none"> <li>› Annual Securities Report: Pension and Retirement BenefitsPDF</li> </ul>
	201-4	Financial assistance received from government	
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	
	202-2	Proportion of senior management hired from the local community	<ul style="list-style-type: none"> <li>› ESG Databook: Diversity Initiatives</li> </ul>
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	<ul style="list-style-type: none"> <li>› ESG Databook: Initiatives for Social Issues</li> <li>› ESG Databook: Disaster Relief</li> </ul>
	203-2	Significant indirect economic impacts	<ul style="list-style-type: none"> <li>› SMARTCONSTRUCTION</li> <li>› Investor Relations: President interview</li> <li>› ESG Databook: Developing People Needed by the Community</li> <li>› ESG Databook: Initiatives for Social Issues</li> <li>› ESG Databook: Disaster Relief</li> </ul>

Aspects	Indicators	Description	Reference
Procurement Practices	204-1	Proportion of spending on local suppliers	› <a href="#">ESG Databook: CSR Initiatives in the Supply Chain - Support for CSR Initiatives of Business Partners -</a>
Anti-corruption	205-1	Operations assessed for risks related to corruption	
	205-2	Communication and training about anti-corruption policies and procedures	› <a href="#">ESG Databook: Compliance</a>
	205-3	Confirmed incidents of corruption and actions taken	› <a href="#">ESG Databook: Compliance</a>
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	

## 300 series (Environmental topics)

Aspects	Indicators	Description	Reference
Materials	301-1	Materials used by weight or volume	› ESG Databook: Relationship between Business Activities and the Environment (Input and Output)
	301-2	Recycled input materials used	
	301-3	Reclaimed products and their packaging materials	
Energy	302-1	Energy consumption within the organization	› ESG Databook: Relationship between Business Activities and the Environment (Input and Output) › Scope of Environmental Data, etc
	302-2	Energy consumption outside of the organization	
	302-3	Energy intensity	› ESG Databook: Initiatives to Mitigate Climate Change in Business Operations › Scope of Environmental Data, etc
	302-4	Reduction of energy consumption	
	302-5	Reductions in energy requirements of products and services	› ESG Databook: Reduction in CO <sub>2</sub> Emissions of Construction Equipment
WATER	303-1	Water withdrawal by source	› ESG Databook: Relationship between Business Activities and the Environment (Input and Output)
	303-2	Water sources significantly affected by withdrawal of water	
	303-3	Water recycled and reused	

Aspects	Indicators	Description	Reference
BIODIVERSITY	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	
	304-2	Significant impacts of activities, products, and services on biodiversity	
	304-3	Habitats protected or restored	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	
EMISSIONS	305-1	Direct (Scope 1) GHG emissions	› ESG Databook: Relationship between Business Activities and the Environment (Input and Output)
	305-2	Energy indirect (Scope 2) GHG emissions	› ESG Databook: Initiatives to Mitigate Climate Change in Business Operations
	305-3	Other indirect (Scope 3) GHG emissions	› Amount of CO2 Emissions by Scope 3 › Amount of CO2 Emissions by Scope3 › Scope of Environmental Data, etc
	305-4	GHG emissions intensity	› ESG Databook: Initiatives to Mitigate Climate Change in Business Operations
	305-5	Reduction of GHG emissions	
	305-6	Emissions of ozone-depleting substances (ODS)	

Aspects	Indicators	Description	Reference
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	<ul style="list-style-type: none"> <li>› ESG Databook: Relationship between Business Activities and the Environment (Input and Output)</li> <li>› Scope of Environmental Data, etc</li> </ul>
EFFLUENTS AND WASTE	306-1	Water discharge by quality and destination	› ESG Databook: Site Data
	306-2	Waste by type and disposal method	
	306-3	Significant spills	
	306-4	Transport of hazardous waste	
	306-5	Water bodies affected by water discharges and/or runoff	
ENVIRONMENTAL COMPLIANCE	307-1	Non-compliance with environmental laws and regulations	› ESG Databook: Environmental Risk Management
SUPPLIER ENVIRONMENTAL	308-1	New suppliers that were screened using environmental criteria	
	308-2	Negative environmental impacts in the supply chain and actions taken	



## 400 series (Social topics)

Aspects	Indicators	Description	Reference
Employment	401-1	New employee hires and employee turnover	› ESG Databook: Personnel Policy and Performance Appraisal System (Data on employment and turnover)
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	
	401-3	Parental leave	› ESG Databook: Enhancing Work-Life Balance (Data on pregnancy and childcare leaves)
Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	
Occupational Health and Safety	403-1	Workers representation in formal joint management-worker health and safety committees	
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	› ESG Databook: Occupational Safety and Health
	403-3	Workers with high incidence or high risk of diseases related to their occupation	
	403-4	Health and safety topics covered in formal agreements with trade unions	› ESG Databook: Occupational Safety and Health
Training and Education	404-1	Average hours of training per year per employee	› ESG Databook: Employee Training Structure (Data on employee training)

Aspects	Indicators	Description	Reference
	404-2	Programs for upgrading employee skills and transition assistance programs	<ul style="list-style-type: none"> <li>› ESG Databook: Employee Training Structure</li> <li>› ESG Databook: Strengthening Our Gemba Capability</li> <li>› ESG Databook: Diversity Initiatives (Rehiring of Retired Employees)</li> </ul>
	404-3	Percentage of employees receiving regular performance and career development reviews	<ul style="list-style-type: none"> <li>› ESG Databook: Personnel Policy and Performance Appraisal System</li> </ul>
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	<ul style="list-style-type: none"> <li>› ESG Databook: Diversity Initiatives</li> </ul>
	405-2	Ratio of basic salary and remuneration of women to men	
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	
Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	<ul style="list-style-type: none"> <li>› ESG Databook: Personnel Policy and Performance Appraisal System (Data on employment and turnover)</li> </ul>
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	<ul style="list-style-type: none"> <li>› Company Info, Komatsu's Worldwide Code of Business Conduct</li> <li>› ESG Databook: CSR Procurement Guidelines</li> </ul>
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	<ul style="list-style-type: none"> <li>› Company Info, Komatsu's Worldwide Code of Business Conduct</li> <li>› ESG Databook: CSR Procurement Guidelines</li> </ul>
Security Practices	410-1	Security personnel trained in human rights policies or procedures	

Aspects	Indicators	Description	Reference
Rights of Indigenous Peoples	411-1	Incidents of violations involving rights of indigenous peoples	
Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Risk Management</a></li> <li>› <a href="#">ESG Databook: CSR Procurement Guidelines</a></li> </ul>
	412-2	Employee training on human rights policies or procedures	› <a href="#">ESG Databook: Compliance</a>
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	› <a href="#">ESG Databook: CSR Procurement Guidelines</a>
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	<ul style="list-style-type: none"> <li>› <a href="#">ESG Databook: Developing People Needed by the Community</a></li> <li>› <a href="#">ESG Databook: Initiatives for Social Issues</a></li> <li>› <a href="#">ESG Databook: Disaster Relief</a></li> </ul>
	413-2	Operations with significant actual and potential negative impacts on local communities	› <a href="#">ESG Databook: Developing People Needed by the Community</a>
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	› <a href="#">ESG Databook: CSR Initiatives in the Supply Chain - Support for CSR Initiatives of Business Partners -</a>
	414-2	Negative social impacts in the supply chain and actions taken	
Public Policy	415-1	Political contributions	

Aspects	Indicators	Description	Reference
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	› <a href="#">ESG Databook: Product Safety</a>
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	
Marketing and Labeling	417-1	Requirements for product and service information and labeling	
	417-2	Incidents of non-compliance concerning product and service information and labeling	
	417-3	Incidents of non-compliance concerning marketing communications	
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	
Socioeconomic Compliance	419-1	Non-compliance with laws and regulations in the social and economic area	

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