

MATERIAL ISSUE

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Climate Change

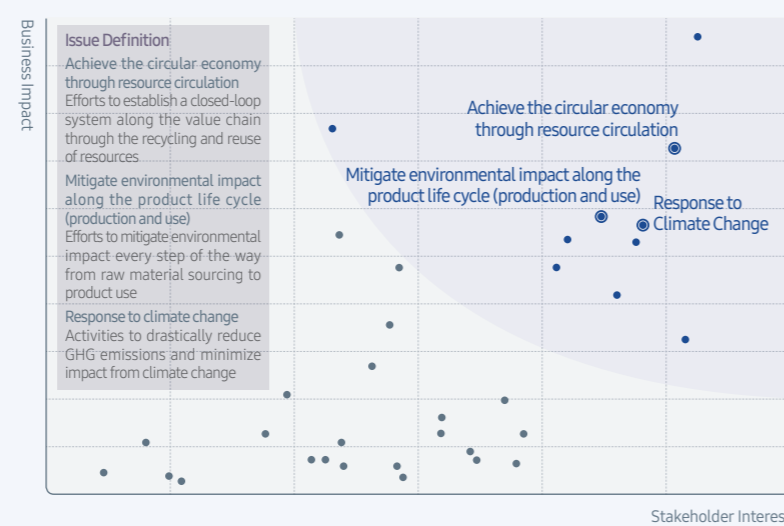
01



Background Behind the Selection of the Issue

Not only do greenhouse gas (GHG) issues concern country-specific institutional implementation to reduce their emissions, but also they serve as international trade barriers as demonstrated by discussions over carbon border taxes. As Renewable Energy 100% (RE100) is emerging as a global leadership initiative to mitigate GHG emissions, this requires businesses to make voluntary efforts to reduce GHG emissions in addition to complying with regulations. In particular, the technological advancement of the battery industry has driven the transition from the Internet of Things (IoT) era to the Battery of Things (BoT) era, and this makes wide-ranging stakeholders turn their attention to Samsung SDI's battery business itself and the eco-friendliness of batteries.

Alignment with Samsung SDI's 2019 Material Sustainability Issues



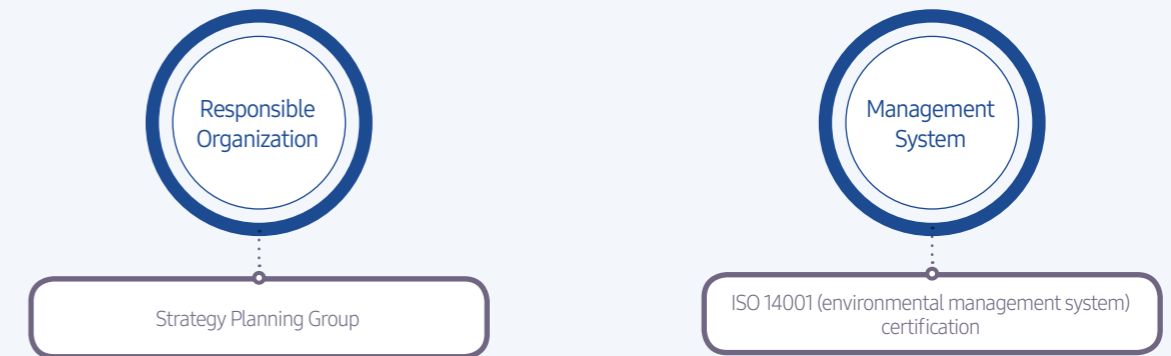
Samsung SDI's Response to the Issue

Samsung SDI's production bases are located in major countries who signed the Paris Climate Agreement. As for our corporations based in Korea, they continue to manage and reduce their GHG emissions and energy consumption in conformity with the Korea Emission Trading Scheme (K-ETS). Our overseas corporations are in full compliance with local environmental regulations, and set their own targets to consistently manage and reduce GHG emissions and energy consumption. Furthermore, Samsung SDI strongly believes that the wider adoption of renewable energy serves as a key tool in the sustained reduction of GHG emissions, and thus is actively participating in the Korean government's pilot project on green pricing designed to join the RE 100 initiative.

Benefits Expected through Response to the Issue

- Customers**
Seize opportunity to expand the green market and identify new growth drivers in line with the increasing eco-friendliness of products
- Governments**
Prevent penalty payments and sanctions through regulatory compliance
- Local communities and civic organizations**
Build trust from local communities and civic organizations and elevate corporate reputation by managing impact from climate change on the areas surrounding worksites
- Shareholders and investors**
Attract and induce investments in ESG funds and socially responsible funds

Samsung SDI's Management System



2019 Achievements and 2020 Targets

●: Achieved, ◐: Partially achieved, ○: Under preparation
* The 2020 target applies to battery business only

KPIs	Unit	2019 Target	2019 Achievement	Level of Achievement	2020 Target
GHG emissions	tCO ₂ e	1,439,321	1,275,165	●	Achieve a 30% reduction from BAU levels in 2020*

Contribution to the Sustainable Development Goals




Management Strategy and Approach

Climate Change Response Strategy	GHG Emissions Management at Overseas Corporations
In 2015, the UN Climate Change Conference held in Paris (COP21) adopted the Paris Climate Agreement to create a new climate regime for 2020 and beyond. While its predecessor, the Kyoto Protocol, set legally-binding commitment targets for advanced nations only, the Paris Agreement imposed such obligations to reduce GHG emissions on all Parties. Samsung SDI sets GHG mitigation targets and has their implementation verified by external verification organizations. Our goal is to reduce our GHG emissions by more than 30% from Business As Usual (BAU) levels by 2020, and we are making progress to reach this goal. Furthermore, we have joined the Korea Emissions Trading System (K-ETS) since 2015, and disclosed information on our climate change strategy and GHG emissions reduction activities through the Carbon Disclosure Project (CDP).	The Samsung SDI Headquarters is directly offering GHG management training to assist overseas corporations in improving their GHG management performance. In 2019, two overseas corporations were visited to support their use of Samsung SDI's energy management system dubbed s-GEMS. In 2020, the application of this system will further extend to other corporations to reinforce our GHG management across the entire global operations.

Broader Introduction of the Energy Management System

In 2019, MAXIMO, our facility management system, was deployed across all worksites both at home and abroad to maintain the operational efficiency of utility facilities and ensure a stable supply of energy. This allows us to constantly monitor the	status of major utility facilities and maintain the optimal supply efficiency in order to improve cost efficiency while reducing energy consumption and GHG emissions. In 2020, we aim to take a step further by adopting an Energy Efficiency	System (EES) at our Cheonan worksite as a way to introduce a system to monitor and analyze the operational data of utility facilities.
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01-1. Response to Climate Change

Establishment of Goals for Reducing GHG Emission	GHG Emissions Mitigation Goal*	Participation in the Emissions Trading System
As the Korean government set a goal of achieving more than 30% reduction in GHG emissions from BAU levels by 2020, Samsung SDI is also fully committed to attaining this goal.	 <p>* Applicable to battery business only</p>	Samsung SDI has joined the Korean Emissions Trading System (K-ETS) that took effect back in 2015 to respond to global climate change regulations. To this end, we have established a carbon management system under the principles of Monitoring, Reporting, and Verification (MRV), and are promoting systemic target management based on the s-GEMS, our IT energy management system. We utilize this target management approach to lower GHG emissions, and monitor allowance prices on a monthly basis and identify our GHG emissions generated to reduce legal risks.

Response to the CDP

The Carbon Disclosure Project (CDP) is a non-profit organization that evaluates the world's largest 500 companies by market capitalization for their response to its official request to disclose their environmental data, including GHG emissions and energy data. In line with the increasing demand from stakeholders, Samsung SDI is transparently disclosing information on its climate change strategy and its activities taken to lower GHG emissions through the CDP. In response to the growing importance of financial impact a company has on climate change, we are also putting efforts into analyzing such impact more objectively. In 2019, we made it onto CDP's A- list.

Global Company-wide Achievement in Reducing GHG Emissions		* Mitigation performance increased in line with change in emission factor		
Category	Unit	2017	2018	2019*
Fuel	tCO ₂ e	10,205	9,878	16,306
Electricity & steam	tCO ₂ e	47,305	42,998	104,073
Total	tCO ₂ e	57,510	52,877	120,379

01-2. Energy Use Management

Major Activities to Reduce Energy Use

At Samsung SDI, respective business divisions are operating an energy target management system while a company-wide energy conservation task force is up and running to reduce energy consumption. From the second half of 2019, technical support has been provided to overseas corporations to assist them in implementing the major energy-saving activities that have been already undertaken at their domestic counterparts. As a result, our Xian and Wuxi corporations identified a total of seven and five improvement tasks respectively to eventually save KRW 590 million and KRW 300 million in energy expenses. In 2019, the energy savings generated through energy consumption conservation at our domestic and overseas corporations amounted to 1,679TJ in total. In 2020, the focus of our energy efficiency improvement will shift from reducing the energy consumption of major facilities to improving the energy efficiency of both major and auxiliary facilities.

Global Company-wide Energy Investments and Achievements in Reducing Energy Use					
Category	Unit	2017	2018	2019	
Total investments	KRW million	3,522	1,840	1,495	
Fuel saving activity	Case	71	78	88	
Electricity & steam saving activity	Case	390	634	543	
Total energy reduced		TJ	1,176	1,081	1,679
- Fuel reduced		TJ	201	197	321
- Electricity & steam reduced		TJ	975	884	1,358
Savings generated	Total savings generated	KRW 100 million	102	89	186
	- Fuel savings generated	KRW 100 million	11	10	38
	- Electricity & steam savings generated	KRW 100 million	91	79	148

Achievements Made in Reducing Energy Consumption among Domestic Corporations * Condenser: A component that cools vapors to turn them into liquids

Worksite	Activity Taken	Achievement Made
Cheonan	Deployment of condensers* to recover flash steam	Recover heat and reuse energy through heat exchange between flash steam and cooling water
Ulsan	Shift from manual to automated operation of steam and chilled water for air handling units and out air handling units	Minimize valve opening through the shift to automatic operation mode as well as PID (Proportional Integral Derivative) adjustments
Gumi	Adoption of screw compressor inverters	Lower base power rates as a result of reductions made in electricity expenses (based on comparative analyses of energy consumption)
Cheongju	Reduce energy consumption to improve the capacity of heat exchangers installed at the cooling filter system	Increase the capacity of heat recovery equipment and reduce warming and cooling expenses

01-3. Green Energy

Adoption of Green Energy

While interest is growing at home and abroad in the Renewable Energy 100% (RE100) initiative as a sustainable solution to reducing GHG emissions, businesses in Korea are facing limitations in using renewable energy due to the lack of systems and conditions that allow them to purchase such energy sources or certificates. To assist domestic corporations in introducing green energy, Samsung SDI proactively offered its feedback in the policy discussions held in 2018, and joined the green pricing pilot project led by the Ministry of Trade, Industry and Energy in 2019. A wide array of green energy systems are also under consideration mainly among our overseas locations. In 2019, our Austrian corporation met 75% of its total power consumption needs through the use of renewable energy. Going forward, we will encourage each and every worksite to follow suit and embrace green energy.

Electric Vehicle and Bus Infrastructure Development

Samsung SDI formed a business partnership with the bus manufacturer ZYLE Daewoo Commercial Vehicle and the battery system company PMGROW in 2017 and has since been engaged in the development and production of electric buses. In 2019, we adopted the two-step electric bus developed as a result of this partnership for employee commuting at our Giheung worksite. This bus is equipped with the 187kWh-capacity battery developed by Samsung SDI, and capable of traveling nearly 200km per single charge. As a pure battery-powered electric vehicle, this bus also does not generate particulate matter while improving on noise and vibration. Furthermore, our Giheung worksite has installed EV charging infrastructure in its parking lot to enable employees to plug in their EVs for charging.

Electric bus used for employee commuting



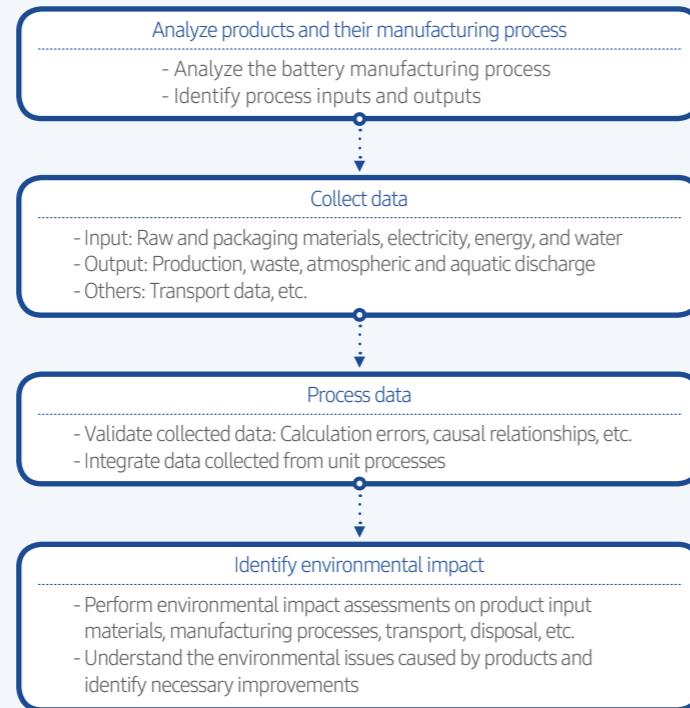
01-4. Management of Product Environmental Impact

Life Cycle Assessment (LCA)

Samsung SDI performs Life Cycle Assessments (LCA) to manage the environmental impact generated by its products. We identify the environmental load that inevitably occurs along the entire product life cycle from raw material sourcing to product disposal, and analyze its actual impact on the environment in order to develop improvement measures. Our definition of environmental impact extends from the local discharge of environmental pollutants to wider categories including global warming, the depletion of resources and energy sources, and ecological health.

The LCA process follows the principles stipulated by ISO14040/44. Environmental data on utility and energy consumed in the manufacturing and parts sourcing process is collected through our integrated energy and GHG management system (e-GEMS) while Bill of Material (BOM) data that shows the material composition of products as well as the environmental safety system (G-EHS) are used to calculate the input of materials and the output of waste. Such data is then fed back into the LCA system internally developed by Samsung SDI to identify our environmental impact, and assessment outcomes serve to develop strategies to minimize our environmental impact.

Battery Product LCA Process



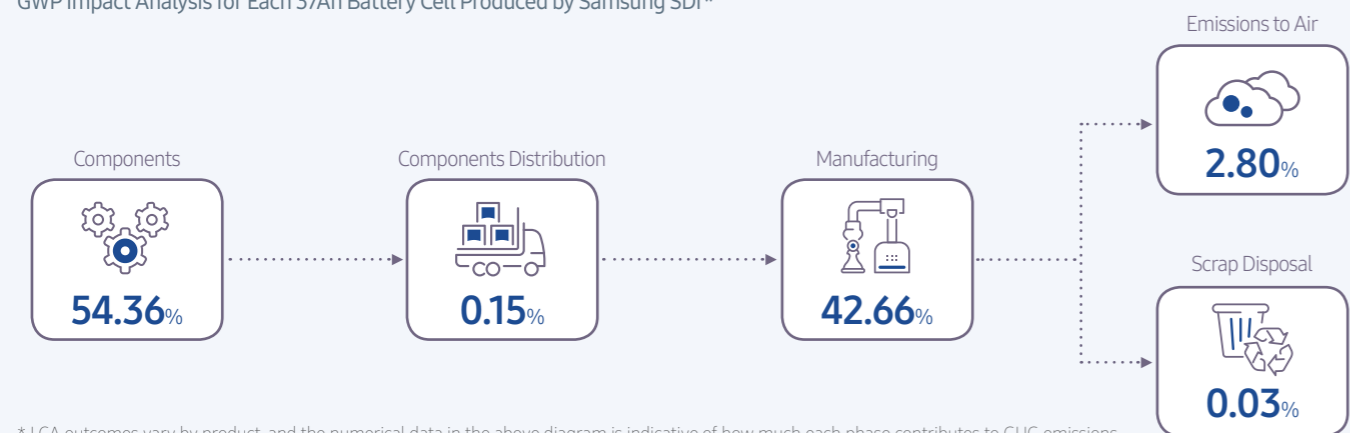
Categories of Environmental Impacts Analyzable through LCA



LCA Outcomes on Specific Mid-sized Battery Products

The following outlines the outcomes generated as a result of the LCAs performed on our battery cells, and specifies how much each impact factor contributes to the Global Warming Potential (GWP), one of the widely-used environmental impact indicators. Samsung SDI leverages such LCA results to formulate strategies to minimize the environmental impact its products generate.

GWP Impact Analysis for Each 37Ah Battery Cell Produced by Samsung SDI*



* LCA outcomes vary by product, and the numerical data in the above diagram is indicative of how much each phase contributes to GHG emissions.

01-5. Recycling

Background

Li-ion rechargeable batteries are part of our daily lives today and play an essential role in society, with the market posting skyrocketing growth rates. In proportion this rapid market growth, the generation of end-of-life batteries is also expected to increase dramatically. Presently, no internationally-applicable guidelines nor national regulations exist to govern the disposal and recovery of end-of-life Li-ion rechargeable batteries. Samsung SDI is keenly aware of its responsibility as a battery producer, and is currently recovering scraps generated at its plants as a way to promote recycling.

Achievements and Plans

In 2019, we established a scrap circulation system starting with our Cheonan worksite. Those scraps generated from the worksite are sent to professional recycling service providers and are recycled into cobalt sulfate. This is then delivered to materials suppliers each year, who, in turn, produce cathode materials and supply them to Samsung SDI. Going forward, we aim to expand the scope of a similar cooperative circulation system to other worksites in Hungary and Malaysia as well as our Ulsan worksite.

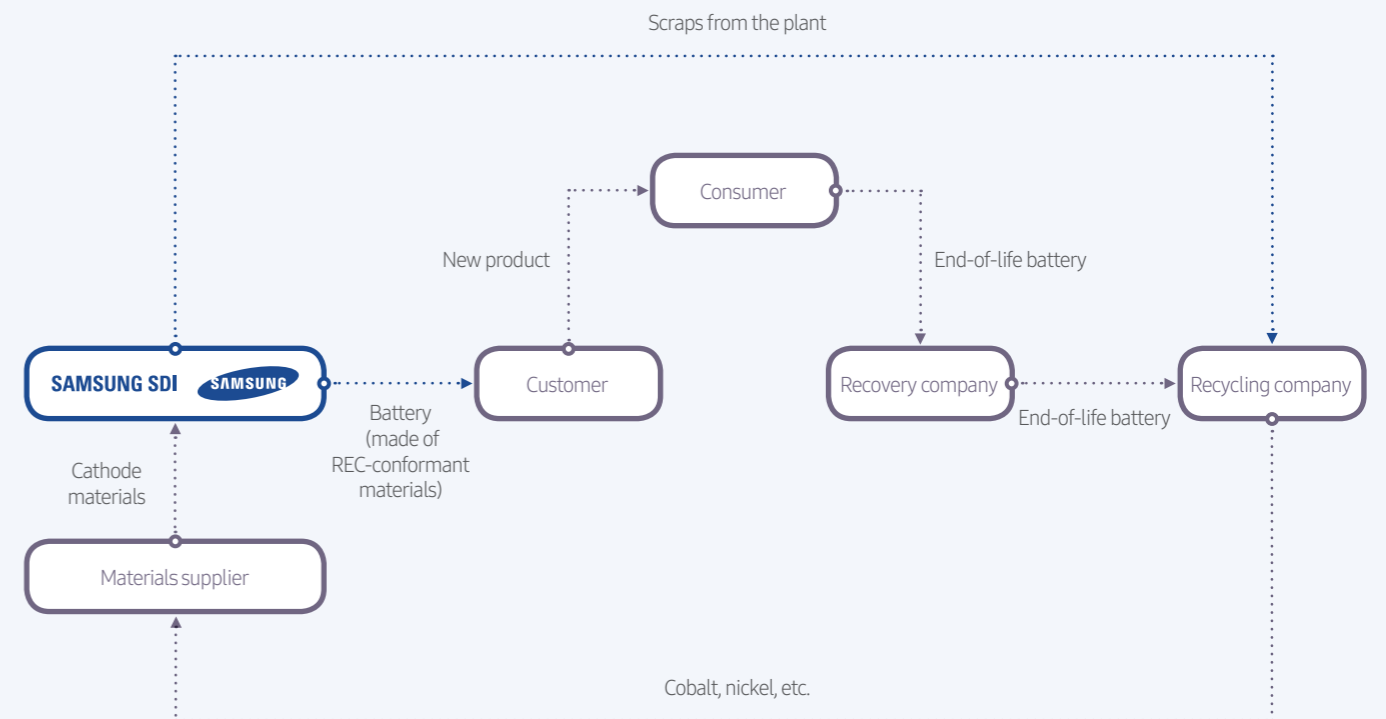
Resource Recovery Process

End-of-life batteries can be recovered in two distinctive ways: the first is to retrieve the scraps generated from the manufacturing process at the plant, and the second is to recover end-of-life batteries used by consumers in their disposal

phase. Samsung SDI is closely cooperating with professional recycling companies to dispose of scraps generated from its plants. Once recovered, scraps undergo grinding and chemical treatment to be recycled as raw materials for major metals.

We plan to consider potential partnerships with automotive OEMs to develop a closed-loop resource recovery system.

Samsung SDI's Resource Recovery Process



01-6. Climate-related Financial Disclosure

Countries across the globe agreed to keep the increase in global average temperature to below 2°C above pre-industrial levels through the Paris Climate Agreement in 2015, and this has given rise to increasingly stronger demand for GHG emission regulations and information disclosures on the part of industries.

In June 2017, the Task-Force for Climate-Related Financial Disclosures (TCFD) of the Financial Stability Board announced its recommendations on climate change information disclosures, and is currently providing a climate change information disclosure framework applicable to a range of sectors and regions. Samsung SDI assessed its status on 'governance', 'strategy (risk and opportunity)', 'risk management', and 'metrics and targets' on the basis of TCFD recommendations to present to its customers, investors and other stakeholders the sustainability of its business operations in relation to climate change issues.

To ensure the reliability of these assessments, we deployed the analysis methodology offered by 'ECO&PARTNERS2°C' and 'S&P Global Trucost'.

Assessment Item



Governance: Governance to manage the risks and opportunities of climate change

At Samsung SDI, its Board of Directors deliberates and decides on the major risk issues that may have grave impact on the Company.

Major issues and response strategies on climate change (use of renewable energy, GHG emission mitigation targets and strategies, etc.) are discussed and managed at the senior management level, including the Company CEO. Our Planning Team is responsible for identifying risks and opportunities across the sustainability management sectors including environment and

society, and for developing risk management and response strategies. As the team is in charge of business strategy and investment operations, this facilitates the alignment between decision-making on climate change issues and our business strategy.

In addition, the EHS & Infra Team calculates GHG emissions generated from business operations and implements energy-saving tasks to help mitigate GHG emissions.

Strategy: Potential impact of climate change risks and opportunities on an organization's business, strategy, and finance planning

Risk Factor

To identify risk factors on climate change, we assessed impacts caused by 'transition risks' and 'physical risks'.

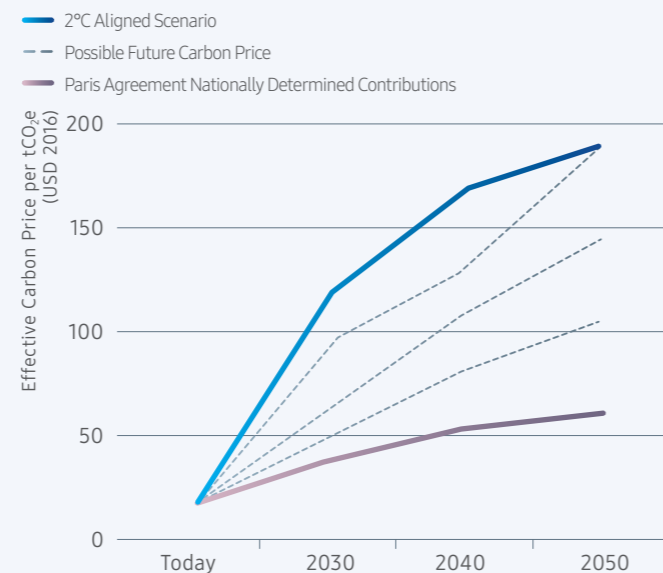
Transition risks refer to risks that may arise as a result of the transition towards a low carbon economy in the international community, and can be classified into policy risks, market risks, technology risks and reputation risks.

Policy risks include impacts that affect businesses as a result of carbon prices increasing due to tightening climate change regulations. We assessed these risks based on three carbon price pathways – a high price scenario (full implementation to meet the Paris Agreement goal of 2°C), a medium price scenario (future possible carbon prices), and a low price scenario (full implementation of countries' nationally determined contributions) as well as on future GHG emissions prospects.

While policy risks may not have significant financial impacts on Samsung SDI in the short term, their mid/long-term implications could expose us to additional carbon cost risks due to production increases in the growing EV battery and ESS markets and rising carbon prices. Therefore, this requires us to explore mid/long-term countermeasures to reduce our carbon emissions.

Market risks refer to the impact of climate change on our market demand. Samsung SDI believes that increases in carbon operation expenses at its major customers may not have sizeable impact on their product purchasing power.

Global Average Carbon Price Scenario Analysis to Meet the 2°C Paris Agreement Goal



* Source: IEA and IRENA (2017); Trucost Analysis. Data as of Jun. 2017

Technology risks could occur when existing products and services migrate to their low-carbon versions or existing products are replaced with low-carbon substitutes. As Samsung SDI offers low-carbon products and services, including EV batteries and ESS, and continues to expand R&D investments in such green offerings, our exposure to technology risks is considered low.

As to physical risks, abnormal weather conditions caused by global warming may expose our Chinese and Korean worksites to the impact of heat waves, fires, and floods (inundation) while our Hungarian worksite that serves as the key production base of EV batteries faces low risks.

Risk Analysis Outcomes

Risk	Expected Impact	Risk Impact			Assessment Basis	
		Short-term (0-1 year)	Medium-term (1-5 years)	Long-term (5 years and beyond)		
Transition Risk	Policy	Increasing climate-related policy and regulatory risks	Low	Low	High	Samsung SDI GHG emission prospects and future regional carbon prices based on climate change scenarios * Analytical tool: S&P Trucost
	Market	Low impact of climate change on the financial status of major customers	Low	Low	Low	Financial impact assessments on customer industries and major customers * Analytical tool: S&P Trucost
	Technology	Low risk in consideration of low-carbon product and service offerings and R&D investments	Low	Low	Low	Ratio of sales in low-carbon related industries, ratio of investments in and R&D on low-carbon technology * Analytical tool: S&P Trucost
Physical Risk	Precipitation and Inundation	Risk of floods due to increases in average global temperature	Low	Low	Low	Risk impact assessments made in consideration of the regional proportion of business locations * Analytical tool: Think Hazard index
	Heat Wave	Rising expenses to maintain the operational conditions of manufacturing	Low	Low	Medium	Risk impact assessments made in consideration of the regional proportion of business locations * Analytical tool: Think Hazard index

Opportunity Factor

Samsung SDI provides high-capacity, high-density EV batteries and ESSs that are connectable with renewable energy to contribute to the transition towards a low carbon economy. As the low carbon industry serving a pivotal role under the 2°C Aligned Scenario, the battery industry is expected to witness an enormous increase in global demand by 2030, and this will further add to opportunity factors.



Risk Management and Target Setting

Samsung SDI is making use of the outcomes of assessments performed in accordance with TCFD recommendations to minimize climate change-related risks while maximizing opportunities.

First of all, we plan to realign our climate change-related organization and work process to strengthen senior management reporting and working-level consultations. We will also finetune the identification and assessment

of climate change risk factors as well as the GHG monitoring system and management indicators.

Furthermore, mid/long-term GHG emission mitigation targets will be set in consideration of TCFD assessment outcomes and mid/long-term business strategies, and phase-specific implementation strategies will be developed accordingly.

Product Safety

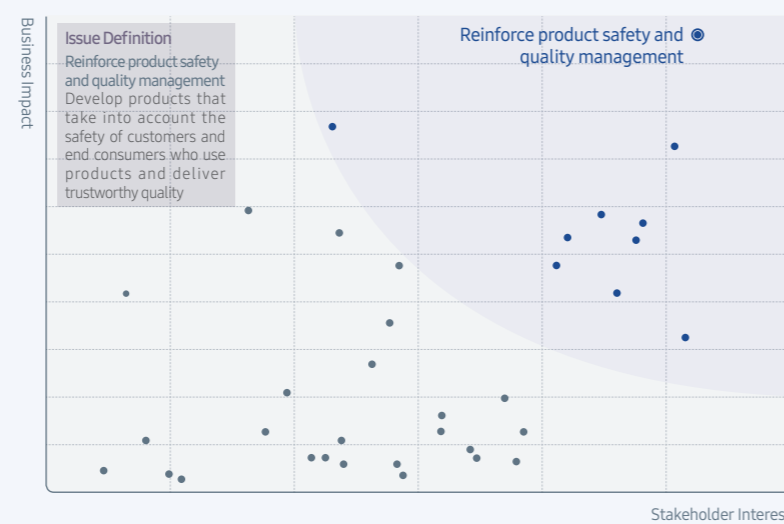
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Background Behind the Selection of the Issue

While the focus was placed on fulfilling customer requirements on product safety and quality over the years, businesses today need to exceed customer expectations by applying internal standards that are more stringent than international safety and quality standards and specifications and by proactively advancing product safety and quality management. This is possible when they establish a safety and quality management system that spans the entire process from raw material sourcing and management to product design, manufacturing and disposal. In particular, those industries that deploy rechargeable batteries consider exceptional safety performance as their top priority and the most essential requirement.

Alignment with Samsung SDI's 2019 Material Sustainability Issues



Samsung SDI's Response to the Issue

Samsung SDI analyzes market requirements and consumer needs to provide the optimal batteries and electronic materials. This naturally prompts us to develop products that deliver quality and safety under diverse use conditions. Specifically, we strengthened our pre-verification, accelerated verification, and certification process to ensure swift and accurate quality verifications and robust designs in so doing while pursuing uniform quality throughout our entire global operations through preemptive change management and the thorough verification of mass-producibility. To this end, we nurture quality professionals to secure quality expertise in respective areas.

Benefits Expected through Response to the Issue

- Customers**
Improve product safety and quality to expand the existing transactions and establish new business transactions, and strengthen customer trust
- Partner companies**
Improve partner companies' product safety and quality competitiveness to establish a sustainable supply chain
- Employees**
Nurture product safety and quality professionals through support for employees' capacity-building

Samsung SDI's Management System



2019 Achievements

(●: Achieved, ◐: Partially achieved, ○: Under preparation)

KPIs	Unit	2019 Target	2019 Achievement	Level of Achievement
Certified national quality experts (cumulative)	No. of persons	240	240	●
Ratio of quality management auditors	%	21.3	21.7	●
	%	34.8	47.5	●

Contribution to the Sustainable Development Goals



4.4

Offer quality training to domestic and overseas corporations to help employees strengthen work capacity on product quality and safety



12.6

Manufacture products in accordance with internal quality and safety policies, and periodically report on this

Management Strategy and Approach

<h3>Quality Management Strategy</h3>	<h3>Quality Management System</h3>
<p>Samsung SDI places product safety and quality first, and supplies products that cater to customer needs through close mutual cooperation. Our quality innovation spans both the development and mass-production phases to establish a company-wide quality operation system in order to deliver product safety. In 2019, our battery business improved the verification of specification and design conformance for materials and semi-finished products to promote the upward standardization of small/medium-sized battery quality and to secure product safety. Notably, our efforts were focused on ensuring the uniform quality of products through manufacturing standardization and automation.</p> <p>Our Electronic Materials Business has reinforced raw material management concerning metals, impurities, and residual solvents to secure quality upfront. To this end, evaluation techniques were supplemented and quality improvement was strengthened of impurities, residual solvents and secondary materials.</p>	<p>Samsung SDI operates its development (PLM), manufacturing (MES) and quality (IQMS, LIMS) systems in accordance with such quality management system standards as ISO 9001 and IATF 16949. Furthermore, we are in full compliance with our 8-Step Quality Process and in constant search for necessary improvements to make progress continuously.</p>

8-Step Quality Process



Quality Management Code of Conduct

<p>Deliver value to customers to earn their trust</p> <p>We enhance customers' value by lending an attentive ear even to their potential needs and fully reflecting them in our products. We address the Voice of Customers (VOC) in a speedy, accurate and cordial manner to forge close and trust-based partnerships with customers.</p>	<p>Place the environment and safety first</p> <p>We believe that product quality is a matter of our collective conscience and thus can never be compromised. As such, we faithfully comply with international environmental management standards, and value quality awareness and responsibility in accordance with our Zero Defect philosophy in order to put customer safety first.</p>	<p>Continuously improve the quality management system and process</p> <p>Samsung SDI's quality management policy is in compliance with ISO 9001 and IATF 16949. We clearly define, strictly follow and continuously improve phase-specific procedures and judgment criteria of our development (PLM), manufacturing (MES), and quality (IQMS, LIMS) systems as well as the 8-Step Quality Process.</p>
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02-1. Commitment to Improved Product Safety

Proactive Safety and Quality Assurance

Samsung SDI's safety and quality management spans the entire product life cycle from raw material sourcing to delivery to customers. Specifically, we have reinforced our preliminary quality verification methodology to ensure design robustness and development completeness while expanding the coverage of verification assessments. While we were more focused on manual inspections such as safety verifications performed under real-life customer environments and harsh conditions of use, we have switched gears in our safety and quality management with the introduction of preemptive inspection methodology. Furthermore, design risks are verified even from the development phase: in developing new products, previous failures are reflected in conducting design verifications based on Quality Failure Mode and Effect Analysis (Q-FMEA) and new assessment methodology is adopted. In addition, we identify and manage critical safety factors to secure safety-related quality for our global mass-production operations, and establish a statistics-based quality management system to strengthen monitoring for preemptive quality management.

Strengthened Quality Assurance

Our Electronic Materials Business established quality assurance test methodology to deliver stable quality on the mass production of new products in 2019. To further improve quality assurance on existing products, test methodology that imitates customer processes was also developed.

Statistics-based Quality Management System

Samsung SDI is reinforcing statistical data analyses to improve its process capacity on major process factors that are related to product safety. Notably, positive results were demonstrated through the adoption of a quality system by our Battery Business to detect process variations through statistical analyses and generate early alerts on the signs of anomaly affecting processes and equipment, and its application is underway for our Automotive & ESS Business.

02-2. Strengthening Product Safety and Quality from the Customer Viewpoint

Products that Reflect Customer Feedback

Samsung SDI manages Voice of Customers (VOC), customers' defect rates, and other customer-related items as its management Key Performance Indicators (KPI) to improve product quality competitiveness. Customer feedback is collected through diverse communication channels, and such feedback is uploaded and managed within our system to conduct item-specific analyses and make necessary improvements. This VOC handling system is operated separately at respective business divisions.

Our battery business manages such effective customer indicators as customer inline defects and process defect rates to promptly review customer issues. This allows us to better identify customer issues and make theme-based improvements on customer issues. Specifically in 2020, a quality innovation task force is up and running through cooperation between respective business divisions and the manufacturing center to analyze chronic defect issues for each product type and customer and focus our efforts on their improvement and to reinforce the competitive edge of our cylindrical battery products.

Our Electronic Materials Business adopted the quality issue management system dubbed 'Focus 119' to monitor in real time those quality issues that occur in the product use phase. This is systematically complemented by the development of improvement measures.

Customer Satisfaction Score by Business Division in 2019 (unit: Point)



* As there are various types of products among businesses dealing with electronic materials, there is no overall score for customer satisfaction



Customer Environment Test (CET)

We have raised the bar on our Customer Environment Test (CET) operation to secure performance stability while minimizing risks in the product use phase that may occur due to the diversification of battery-powered applications. CET aims to improve safety risks by reviewing product use conditions upfront. While the widely-adopted practice is to apply a company's own quality standards, CET examines the appropriateness of cell applications under the conditions set by customers. Jointly analyzing customers' new products as well as product use environments or design conditions of new customers, Samsung SDI delivers cell products in their optimal conditions. This, in turn, helps prevent fires experienced by consumers due to their improper product use and large-scale quality incidents caused by misdesign or miss-matching on the part of customers.

In 2020, four categories were chosen internally to receive intensive management - waterproofness, overdischarge, imbalance, and charging conditions - with an aim to prepare for any safety incidents that may occur in relation to e-kick scooters and other micro-mobility modes. For concerned requirements, we offer guidance to companies adopting Samsung SDI cells in producing battery packs to fully comply with such requirements.

To cater to customer needs to swiftly deploy our products, we are improving and systemizing our CET process with a goal of reducing our CET response lead times by 30% within 2020.

Strengthened Management of Product Environmental Performance

Our Electronic Materials Business mainly produces materials that are consumed for the manufacturing of semiconductors and displays, among others. We are managing these materials for their containment of hazardous substances as well as the content of these substances in case they are included in accordance with the product environmental standards required by our customers who produce semiconductors and displays. In the event that product raw materials contain hazardous substances, we focus on their reduction or elimination from the development phase. In managing the content of such hazardous chemicals, we apply standards that are even more stringent than domestic/international environmental regulations to fully assist our customers in manufacturing eco-friendly products and improving their occupational safety.

Customer Satisfaction Management and Improvement

At Samsung SDI, respective business divisions perform detailed surveys to identify customer satisfaction, and monitor a range of indicators including R&D capacity, service, and delivery as well as product quality. In particular, customer feedback collected during the survey period is reviewed in the post-mortem meetings hosted by respective business divisions to take a second look at all aspects of the issue that has occurred. This enables them to learn about vivid feedback from customers on their product and service quality and to understand the current status quo and set directions for future improvements.

In our small-sized Li-ion battery business, Customer Satisfaction Index (CSI) surveys were performed on 21 major customers in 2019 to analyze their complaints and make necessary improvements in respective categories including quality characteristics and quality satisfaction performance. Our Electronic Materials Business surveyed its customers on the five categories of quality, technical support, development capacity, supply, and sales response to identify issues and improve on them.

02-3. Expansion of Quality Improvement Support

Support for Partner Companies with Quality Improvement

In 2019, we expanded the application of our partner company quality management system and this helped our partner companies to detect process and quality anomalies to prevent quality incidents accordingly. Our battery business is advancing its partner company quality management system to establish infrastructure that allows for system-based quality management across all partner companies. In parallel, periodic quality consultations will be made with partner companies to help them deliver stable quality. For partner companies who have overseas presence, we offer them stabilization support early on to upward standardize their quality level. Our Battery Business assisted its partner companies in need of their own automotive quality management system (IATF 16949) to develop such a system, and our Automotive & ESS Business supported partner companies with the resolution of chronic defect issues through task force operation to improve on defects that stem from improper management. Our Electronic Materials Business organized a dedicated unit to provide technical support to overseas partner companies for their quality improvement and management in response to the growing demand for mobile and IT device polarizing films. In particular, it is cooperating with raw material suppliers on quality assurance in order to control the foreign substances found in polarizing films and impurities contained in raw materials.



Support for Overseas Corporations with Quality Improvement

Samsung SDI is focused on the improvement of mass production quality with a goal of building a sustained strong global competitive edge through the upward standardization of quality across the entire domestic and overseas production bases. Our Automotive & ESS Business continues to send its mass production quality management experts to our Hungarian corporation which initiated mass production in 2018 to support its quality stabilization, and offers stage-specific

training to staff in Hungary to further localize its quality management operation. To help Korean partner companies who joined our entry into the Hungarian market to achieve and stabilize IATF 16949, our Headquarters sent component quality experts to support them with quality training, process improvement, and quality system development so that these locally-based partners can establish their own quality management process and become a self-sustaining business. Our Electronic Materials Business hold meet-

ings attended by Korean experts to help employees at overseas corporations improve their work skills. Professionals in the areas of manufacturing, technology, and quality at the Cheongju worksite transfer their know-how on manufacturing polarizing films to locally-hired staff and expatriates, and host discussions on problem-solving as a way to disseminate quality improvement practices to our overseas corporations.



Improve the quality of mass-production with a goal of continuously strengthening global competitiveness through the upward standardization of quality across the entire production bases in Korea and abroad

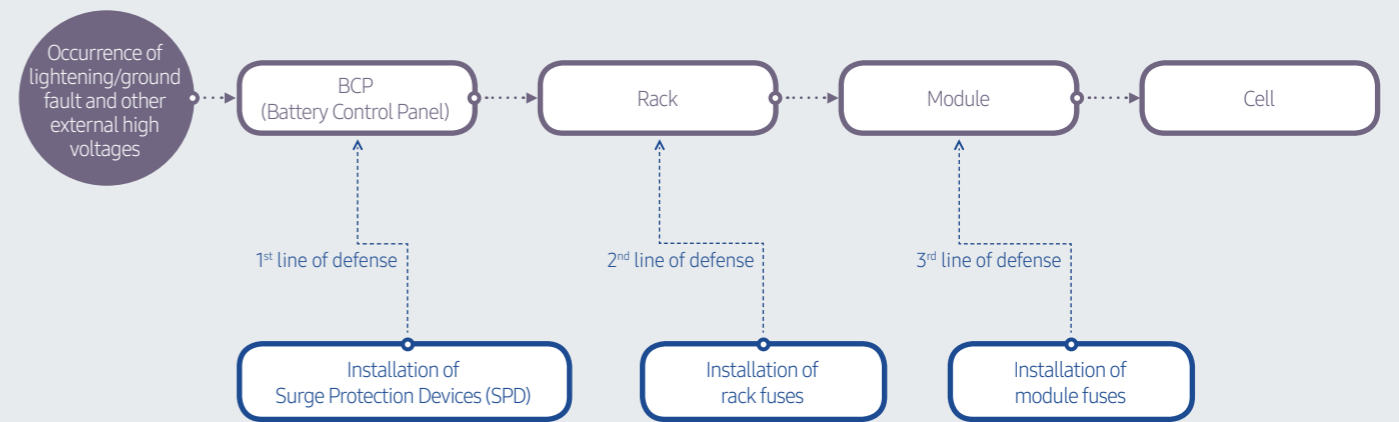
SPECIAL SECTION

02-4. ESS Safety Improvement

Fuse and Sensor Installation to Prevent Externally-Applied High Voltages/Currents

When high voltages are externally applied as in the case of lightning, ground faults, or abnormal voltages affecting the Power Conditioning System (PCS), Battery Control Units (BCU) suffer damages and short circuits. Such occurrence of high voltages may cause fires, which could spread to battery modules and even to cells. To prevent any and all possibility of fires, Samsung SDI has established a triple defense system for its ESS offerings to fundamentally prevent externally-applied high voltages from causing fires.

Triple Fire Defense System



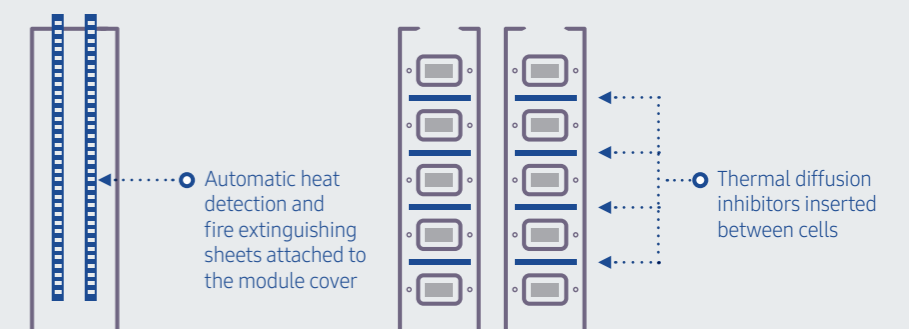
Firmware Upgrade to Detect Seemingly Defective Cells and Initiate Automatic Shut-off

We continuously upgrade the firmware installed to detect seemingly defective cells and initiate automatic shut-off upon the detection of such defects in order to strengthen the safety of our products. This firmware is specifically upgraded to discover abnormal cells early on and set off the emergency suspension of battery operation in the event of anomalies. The version released in April 2019, compared to its predecessors, has adopted more elaborate and stringent criteria on voltage difference detection, low voltage protection and others. This also comes with an added function of halting the operation of the entire ESS even when anomalies occur in a portion of the modules. In 2020, we plan to develop a real-time remote cell monitoring system to impose tighter fire controls.

Recovery of Battery Modules in Korea to Equip Them with Firebreaks

To fulfill its responsibility for product safety as a manufacturer, Samsung SDI recovered the battery modules installed at all domestic sites regardless of occurrence of fires or their causes and then equipped them with firebreaks. These firebreaks adopted automatic heat detection and fire extinguishing sheets so that fire extinguishing agents could be sprayed if the temperature reaches 120°C (cell-level thermal runaway occurs in the ranges of 150~160°C). In addition, thermal diffusion inhibitors were inserted between cells to prevent thermal spread. These upgraded firebreaks will be applied to installed battery modules for eight months between October 2019 and May 2020, and new products whose shipment started from September 30, 2019 are equipped with these fire prevention devices during their shipment phase.

Battery Module Firebreaks



Sustainable Supply Chain

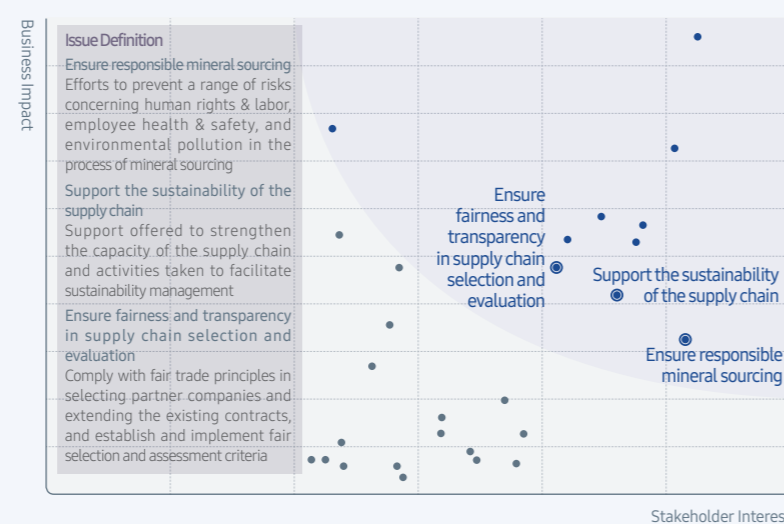
03



Background Behind the Selection of the Issue

Building a global supply chain through close cooperation with competitive business partners is increasingly gaining importance as a key factor to secure a strong competitive edge. In line with the globalization of the supply chain, numerous businesses are facing more diverse risks and this is emerging as a new type of risk for them. Furthermore, international regulations and stakeholder requirements are also increasing in relation to social responsibility along the supply chain. All of such changes urge companies to comply with all applicable laws and regulations in the areas where their business partners operate, identify and improve on risks in the areas of economy, environment, and society, and lay the basis to seek shared growth with business partners.

Alignment with Samsung SDI's 2019 Material Sustainability Issues



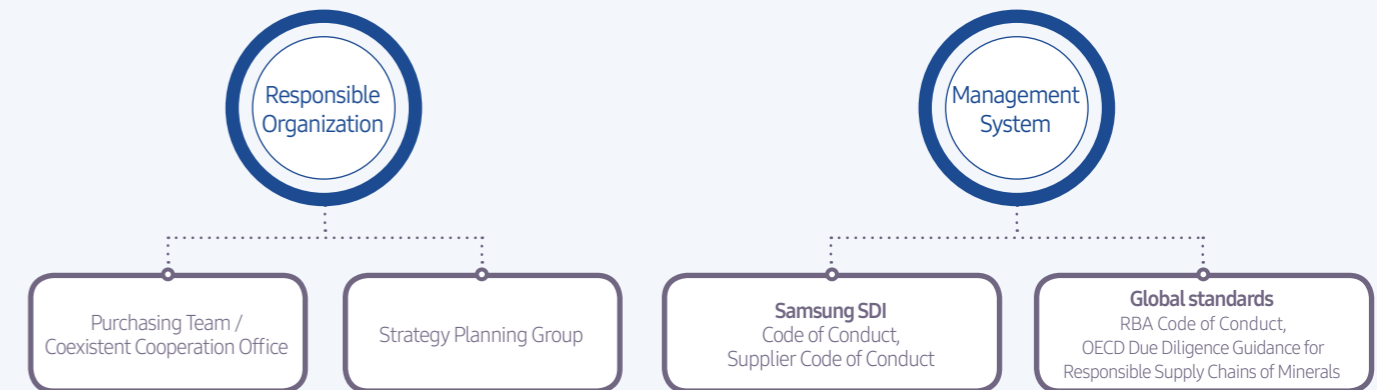
Samsung SDI's Response to the Issue

Samsung SDI aims to create a virtuous cycle within the business ecosystem as a way to pursue shared growth as a global leader. As such, we are establishing fair trade practices to assist partner companies in strengthening their capabilities and seek sustained growth in so doing. As the fulfillment of social responsibility emerges as an essential risk factor that concerns the competitive edge of the supply chain, we are operating the S-Partner system to identify and improve supply chain risks in the areas of human rights & labor, ethics, environment, and health & safety. We are also cooperating closely with customers, partner companies, and stakeholders working in relation to industry initiatives in order to secure transparency across the entire supply chain, from mineral mining to processing and sourcing.

Benefits Expected through Response to the Issue

- Customers**
Meet customer needs by fulfilling social responsibility along the supply chain
- Partner companies**
Secure and retain top-performing partner companies through support for fair trade practices and win-win cooperation
- Governments**
Prevent the imposition of penalties and sanctions through regulatory compliance
- Local communities and civic organizations**
Fulfill social and environmental responsibility in mineral sourcing to earn trust from local communities and civic organizations and elevate corporate reputation
- Shareholders and investors**
Fulfill social responsibility along the supply chain to minimize relevant risks

Samsung SDI's Management System



2019 Achievements and 2020 Targets

(●: Achieved, ◐: Partially achieved, ○: Under preparation)

* The S-Partner certification target for 2020 is primarily for overseas partners, and thus has been lowered from the previous year's target
** Including smelters and refiners currently receiving third-party audits

KPIs	Unit	2019 Target	2019 Achievement	Level of Achievement	2020 Target
Shared Growth	Finance support	KRW 100 million	Continued expansion	●	Continued expansion
	Support for talent development	No. of persons	1,120	◐	1,000
Social Responsibility	S-Partner certification	No. of certifications awarded	90	●	60*
	Third-party audits on cobalt smelters and refiners **	%	-	-	100

Contribution to the Sustainable Development Goals




8.7
Efforts to prevent the issues of human rights and health & safety in sourcing graphite, cobalt, and other conflict minerals



12.2
Conduct RCOIs and third-party audits on cobalt, conflict minerals and any other minerals used for battery production

Management Strategy and Approach

Definition of Partner Companies	Supply Chain Risk Management
<p>Samsung SDI classifies its supply chain partners into first, second, and third-tier partners and manages them accordingly. Specifically, suppliers of raw materials used for product manufacturing are recognized as a main component of the supply chain and they receive intensive support to promote shared growth and ensure fair trade. First-tier partners are defined as the suppliers of raw materials and parts that are consumed to manufacture Samsung SDI's components and products, and second/third-tier partners are those who supply raw and subsidiary materials to first-tier partners.</p>	<p>To make sure that our partner companies manage their social and environmental risks, we set forth the Supplier Code of Conduct and made it mandatory for all our partner companies to comply with this set of standards. In case of any violation of the Supplier Code of Conduct, concerned partners are recommended to take improvement measures, and if such violations continue to occur or no improvement is made, restrictions are imposed on future transactions with them. To promote transparency and fairness in selecting and managing partner companies, written assessments and on-site audits are performed, and this allows us to manage such non-financial risks as workplace safety, environment and labor rights as well as financial status, production capacity, and quality. In addition, our S-Partner certification system enables us to monitor partner company risks in the areas of labor, ethics, environment, and health & safety, and to make necessary improvements as a way to fulfill our social responsibility along the supply chain.</p>
Supplier Code of Conduct	2020 Win-Win Cooperation Promotion Plan
<p>Any and all partner companies who do business with Samsung SDI are obligated to comply with the 'Samsung SDI Supplier Code of Conduct' that presents behavioral guidelines on the aspects of human rights, labor, health & safety, environment, and ethics. The code is based on the Responsible Business Alliance (RBS) Code of Conduct and on ILO and ISO standards. Each and every partner company is required to sign the agreement to observe the Supplier Code of Conduct in concluding contracts with Samsung SDI.</p>	

03-1. Compliance with Fair Trade Principles

Fair Trade Policy	Expanding Fair Trade among First, Second, Third-tier Partners								
<p>To establish reasonable and fair trade practices, we make it a rule to use standard contract forms in doing business with partner companies, and observe the following four principles in proceeding with the contract process.</p>	<p>Samsung SDI's endeavors to create a culture of fair trade extend beyond its first-tier partners and into second/third-tier partners. Notably, official documents calling for cooperation are sent and relevant notices are made at diverse events to encourage the signing of standard subcontract agreements between first and second-tier partners, and the application of such agreements is monitored. We also support partner companies in concluding the fair trade agreement and guide them in improving payment criteria so that payments could be made in cash within 30 days.</p>								
4 Action Principles	2019 Performance in Supporting the Signing of the Fair Trade Agreement								
<ul style="list-style-type: none"> Execution of desirable agreements Fair selection and registration of partners Operation of unfair trade practice prevention and monitoring systems Issuance and retention of written agreements 	<table border="1"> <thead> <tr> <th>Category</th> <th>Performance</th> </tr> </thead> <tbody> <tr> <td>Samsung SDI – First-tier partners</td> <td>109 partners</td> </tr> <tr> <td>First-tier – second-tier partners</td> <td>120 agreements</td> </tr> <tr> <td>Second-tier – third-tier partners</td> <td>42 agreements</td> </tr> </tbody> </table>	Category	Performance	Samsung SDI – First-tier partners	109 partners	First-tier – second-tier partners	120 agreements	Second-tier – third-tier partners	42 agreements
Category	Performance								
Samsung SDI – First-tier partners	109 partners								
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03-2. Capacity-Building for Partner Companies

Support for Innovative Manufacturing Competitiveness											
<p>The increasing global demand for Energy Storage Systems (ESS) highlights the need for a stable supply chain. This prompted us to support PowerLogics, our long-time partner company, to build its Battery Management System (BMS) for ESS applications in 2019. The BMS is responsible for gauging the environment through the information gathered by sensors and controlling the battery to maintain its optimal state.</p>	<p>Samsung SDI and PowerLogics joined hands to undertake innovation tasks designed to 'establish a production line with proven quality and productivity' and 'stabilize its operation early on'. This resulted in the completion of 43 out of a total of 46 tasks related to quality, productivity, and equipment automation (three uncompleted tasks were confirmed not applicable following reviews made by Samsung SDI's relevant departments).</p>										
Support for Partner Companies to Provide Employment for Youth											
<p>Leveraging the training system and top-tier infrastructure available at our Consortium for HRD Ability Magnified Program, we assist partner companies in building their employee capacity. Courses that address 22 topics including job skills, quality management, process management, and business administration are provided to help partner companies strengthen their competitive edge. In 2019, this training initiative was joined by 821 employees at 111 partner companies, and 7 partner companies were able to create jobs for 70 persons through the nurturing of specialized workforce.</p>	Innovation Task Execution Outcomes <table border="1"> <thead> <tr> <th>Category</th> <th>Completion</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Quality</td> <td>91.7%</td> <td rowspan="3">93.5% completed</td> </tr> <tr> <td>Productivity</td> <td>93.3%</td> </tr> <tr> <td>Automation</td> <td>100%</td> </tr> </tbody> </table> <p>Under the benefit sharing system, companies placing orders and companies receiving such orders collaborate in diverse ways to attain the set common goal, and share the benefits generated accordingly. This system enabled Samsung SDI to identify and undertake eight tasks with six partner companies in the first and second half of 2019 respectively. The goals, defined to reduce defect rates, increase production quantity per man hour, and improve quality, were all reached and partner companies secured their manufacturing competitive edge through the productivity gains achieved.</p>	Category	Completion	Total	Quality	91.7%	93.5% completed	Productivity	93.3%	Automation	100%
Category	Completion	Total									
Quality	91.7%	93.5% completed									
Productivity	93.3%										
Automation	100%										

03-3. Laying the Basis for Sustained Growth

Samsung SDI Partners' Association	Support for Smart Factory Benchmarking
<p>The Samsung SDI Partners' Association (SSP) aims to expand interactions between Samsung SDI and its partner companies. The 8th SSP consisted of 38 partner companies in the three subcommittees of materials, components and equipment. Association activities launched by these 38 members include general meetings, overseas benchmarking, seminars, subcommittee meetings, and Shared Growth Day events, and they serve to encourage partner companies to share information and build on this to create business opportunities.</p>	<p>In 2019, we assisted partner companies from different industries in benchmarking each other to help them improve sustainability. These partners were given an opportunity to visit SHINSUNG E&G and Youngsin Metal Industrial that operate Korea's leading smart factories to learn their process management methodology. This was intended to ensure that participating companies apply the lessons learned through benchmarking to transform their plants into smart factories to ultimately build a stronger competitive edge. Such benchmarking support will continue in the upcoming years.</p>

Smart Factory Benchmarking Outcomes in 2019

Category	Youngsin Metal Industrial Co., Ltd.	SHINSUNG E&G
Business Overview	Produce bolts and screws and supply them to domestic and overseas car OEMs	Manufacture products related to high-efficiency solar cells and clean rooms
Strength	- Introduce the MES → share equipment's operational state and status in real time → automate product measurement and documentation	- Korea's first energy self-sufficient plant - ICT-powered intelligent shop floor
Participant	27 persons, 21 companies	30 persons, 17 companies



S-Partner Certification System

Our S-Partner certification system targets new partner companies and major raw/subsidiary material suppliers. They are provided with annual training to raise their sustainability awareness, and receive biennial assessments on their compliance with our 'Supplier Code of Conduct' which is based on the Responsible Business Alliance (RBA) Code of Conduct. Specifically for such critical categories as child labor, forced labor, pollutant discharge, and environmental approval, the zero tolerance principle is applied to demand their thorough compliance. Prior to on-site audits performed by external professional consultants, our new partners and all major raw/subsidiary material suppliers are required to conduct self-assessments. This is followed by on-site audits led by external professionals, and re-audits are performed for those who failed to meet mandatory compliance requirements or the set score threshold. For issues in need of improvement identified as a result of on-site audits, partner companies are required to submit their improvement plans within one month. In 2019, these audits were conducted on 70 domestic and 20 overseas partners, and all of them either maintained or achieved the S-Partner certification. This includes four partners who ranked at the bottom in 2018 and thus received re-audits.

S-Partner Certification Assessment Outcomes in 2019
(unit: No. of companies)

Category	Certification Terminated	New	Re-audit	Total
Domestic	50	16	4	70
Overseas	20	-	-	20
Total	70	16	4	90

S-Partner Certification Maintained/Achieved

S-Partner Certification

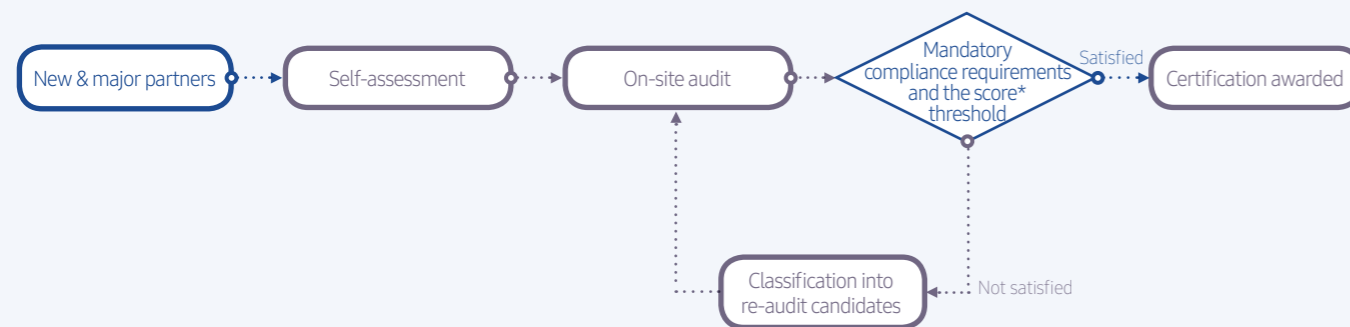
100%

Major Improvement Items in 2019

1. Environment
 - Effluent and solid waste management programs and procedures
 - Six major GHG management and documentation
2. Environment/health & safety system
 - Business Continuity Planning (BCP) on core business operations
3. Health/safety
 - Procedures to protect workers from high-risk machinery
 - Provision of protective gear for safety hazards and creation of relevant supporting documents
 - Appropriate placement of fire and emergency response manuals prepared in working languages
 - Compliance with MSDS (Material Safety Data Sheet) requirements
4. Labor
 - Operation of procedures to verify the forced imposition of compulsory labor and human trafficking
 - Operation of regulations for disciplinary purposes concerning penalties and pay cuts
 - Operation of grievance-handling regulations to address sexual harassment or threats against employees
5. Ethics
 - Assessment of compliance with ethical regulations and other requirements and operation of regular internal audits

S-Partner Certification Assessment Process

* 70 points for new partners, 80 points for existing partners



03-4. Responsible Mineral Sourcing

Samsung SDI is committed to the sustainable and ethical sourcing of minerals and the establishment of responsible sourcing practices along the supply chain.



Policy

In 2017, Samsung SDI established the zero tolerance principle concerning responsible mineral sourcing in conformity with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, and revised and announced its Partner Code of Conduct accordingly. We have since monitored all our raw/subsidiary material suppliers for their compliance with our responsible mineral sourcing policy. In addition, annual training, meetings, notices, and other diverse methods are used to publicize our policy and improve awareness among internal/external stakeholders including customers, investors, senior management and the purchasing department as well as partner companies.

Responsible Mineral Sourcing Initiative

In May 2020, Samsung SDI joined the Responsible Minerals Initiative (RMI) to make concerted efforts with the international community to improve mineral sourcing practices and to utilize diverse information on high-risk minerals concerning their smelters and refiners as well as their place of origin. Founded in 2008, the RMI is responsible for tracing and investigating four major conflict minerals (gold, tin, tantalum, and tungsten) for their country of origin and smelters and refiners, and for operating the smelter and refiner certification program led by third-party audits. Our RMI membership will allow us to harness the information and resources provided by the organization in complying with global standards, including but not limited to the OECD Due Diligence Guidance, in order to launch more systemic activities to advance responsible mineral sourcing in the upcoming years.



Cobalt

Cobalt, a raw material used to manufacture smartphones and EV batteries, is experiencing a sharp increase in demand recently. This critical commodity, however, is giving rise to social responsibility issues globally that occur in its mining and production process mainly in the Democratic Republic of the Congo (DRC).

In particular, small-scale artisanal cobalt mines are exposed to a wide range of risks, from child labor, human rights abuses, lack of protective gears that ensure the safety of workers, and safety incidents to health issues, air and water pollution, and bribe-taking.

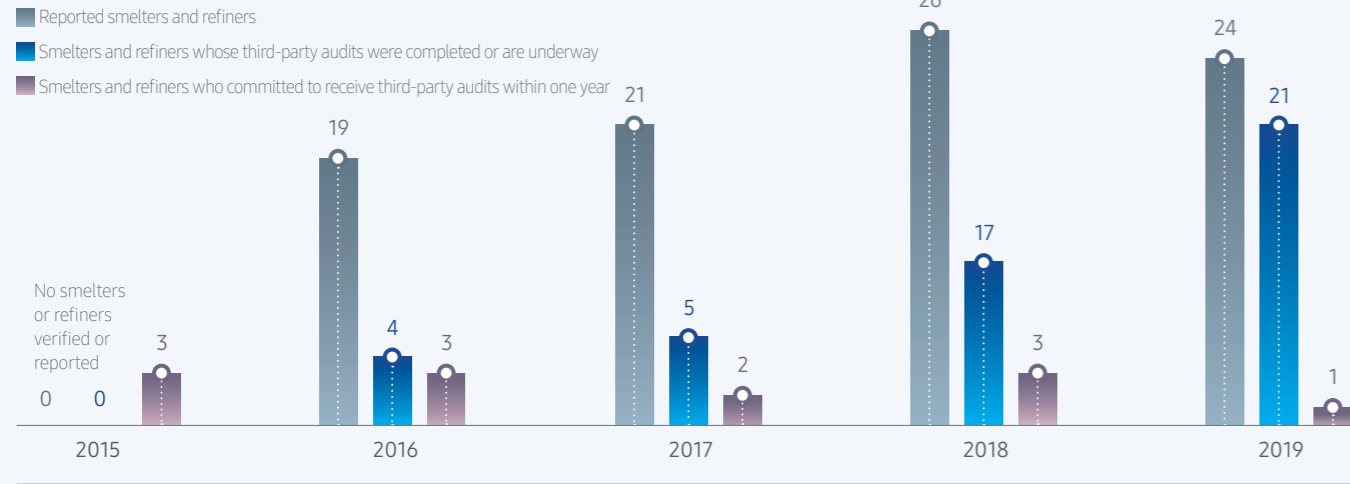
Traceability of the Supply Chain

Each year, Samsung SDI assesses all of its suppliers using cobalt through the application of RMI's Cobalt Reporting Template (CRT) to ensure traceability and transparency of its cobalt supply chain. In 2019, a survey was conducted on all 20 partner companies that supply raw and subsidiary materials containing cobalt and the response rate amounted to 100% while a total of 24 smelters and refiners were verified. Going forward, we plan to use information from external initiatives and perform on-site audits on partners to further validate the consistency of survey outcomes in order to establish full traceability of our cobalt supply chain.

Third-Party Audit

Samsung SDI aims to ensure that all its verified smelters and refiners complete either the third-party audits performed by the RMI or other corresponding independent audits. To this end, we send official documents or hold meetings to strongly demand that all smelters and refiners who have yet to join the RMI Responsible Minerals Assurance Program (RMAP) to participate in this program designed to conduct third-party audits on smelters and refiners. Out of 24 smelters and refiners assessed in 2019, three of them are RMI-Conformant, and 16 of them are included in the active list and currently engaged in the RMAP process. Out of five smelters and refiners who are neither RMI-Conformant nor included in the active list, two of them were reported to have completed corresponding independent third-party audits.

Y-o-Y Trajectory of Cobalt Smelters and Refiners along the Samsung SDI Supply Chain



Reported Cobalt Smelters and Refiners

Cobalt Smelters and Refiners	Country	Cobalt Smelters and Refiners	Country
01. Ambatovy	Madagascar	13. JSC Kolskaya Mining and Metallurgical Company (Kola MMC)	Russia
02. Chemaf Etoile	Democratic Republic of the Congo	14. Kamoto Copper Company	Democratic Republic of the Congo
03. Chemaf Usoke	Democratic Republic of the Congo	15. Lanzhou Jinchuan Advanced Materials Technology Co., Ltd.	China
04. Ganzhou Yi Hao Umicore Industry Co., Ltd.	China	16. New Era Group Zhejiang Zhongneng Cycle Technology Co., Ltd.	China
05. Ganzhou Tengyuan Cobalt New Material Co., Ltd.	China	17. Quzhou Huayou Cobalt New Material Co., Ltd.	China
06. Gem (Jiangsu) Cobalt Industry Co., Ltd.	China	18. SungEel HiTech Co.,Ltd.	Republic of Korea
07. Guangdong Jiana Energy Technology Co., Ltd.	China	19. Tianjin Maolian Science & Technology Co., Ltd.	China
08. Hunan Yacheng New Materials Co., Ltd.	China	20. Umicore Finland Oy	Finland
09. Hunan Zoomwe New Energy Science & Technology Co., Ltd.	China	21. Umicore Olen	Belgium
10. Jiangsu Xiongfeng Technology Co., Ltd.	China	22. Vale	New Caledonia
11. Jiangxi Jiangwu Cobalt industrial Co., Ltd.	China	23. ZheJiang Huayou Cobalt Co., Ltd.	China
12. Jingmen GEM Co., Ltd.	China	24. Zhuhai Kelixin Metal Materials Co., Ltd.	China

Reported Countries of Origin

1 Australia	2 Democratic Republic of the Congo	3 New Caledonia	4 Madagascar	5 Russia
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‘Cobalt for Development’ Project

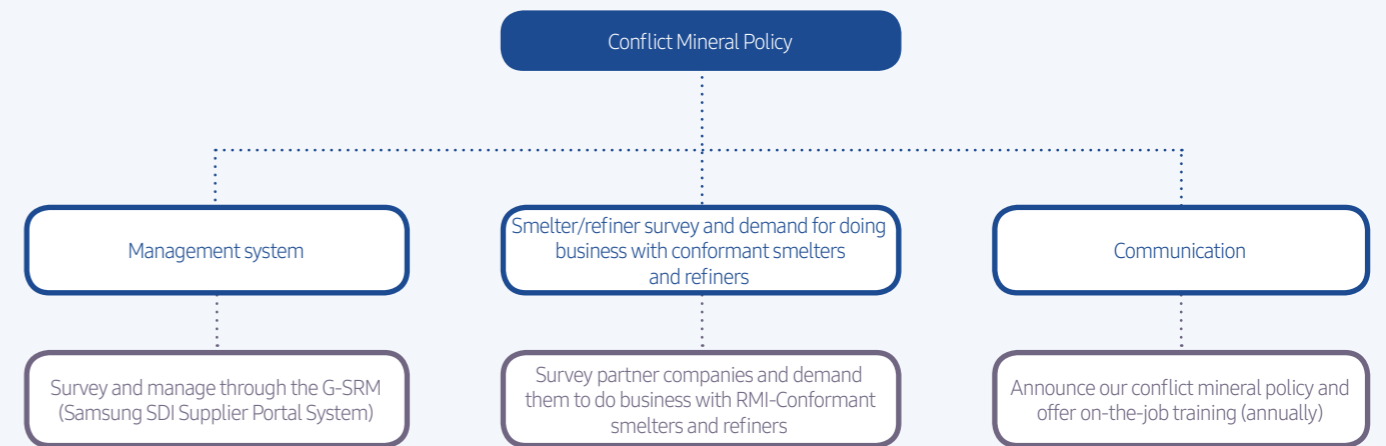
In 2019, Samsung SDI announced in its sustainability report that the Company joined hands with likeminded companies to launch the Cobalt for Development Project, a privately financed partnership project intended to improve on the issue of small-scale artisanal mines in Democratic Republic of the Congo (DRC). The aim of this project is to provide better working and living conditions for artisanal cobalt mines and their surrounding communities. To this end, training will be provided and the dissemination of personal protective equipment will be expanded to create a better working environments. In the nearby community, the project is carrying out capacity development activities on financial literacy and alternative incomes.



Conflict Minerals

Conflict minerals refer to Tantalum, Tungsten, Tin and Gold (3TG) that are sourced in conflict-affected zones in Africa, and are often used to fund armed groups and known to cause severe human rights infringement and environmental pollution in their mining process. To fundamentally resolve these issues, the Dodd–Frank Wall Street Reform and Consumer Protection Act enacted in the U.S. back in 2010 made it mandatory to trace and report the countries of origin for such conflict minerals extracted in conflict areas in order to curb the direct/indirect funding of armed groups. To respond to the request of the international community on these conflict mineral issues,

Samsung SDI established its own policy to ban the use of conflict minerals as well as a system to survey and manage its supply chain. This system enables us to gauge the current status of our supply chain by surveying our partner companies every year on their smelters and refiners, and we strongly demand that each and every partner does business with RMI-Conformant smelters and refiners. As a result of the survey performed in 2019, all smelters and refiners of 3TG used for Samsung SDI products were fully conformant with the RMI certification standards.



Management of Controversial Minerals

The mineral mining process gives rise to a wide range of issues on human rights and environmental degradation as demonstrated by environmental contamination observed in the vicinity of Chinese graphite mines and water shortages experienced at salt lakes used for lithium extraction in Latin America, in addition to conflict minerals and cobalt. This prompted us at Samsung SDI to step up our endeavors to investigate such issues and identify relevant risks concerning major minerals used for our products.

For instance, on-site audits are conducted every two years on Chinese graphite mines to discover issues and make necessary improvements, and the second round of such on-site audits is scheduled for the second half of 2020. For lithium, nickel and other major minerals that may cause any issues, we examine related partner companies and hold meetings with them to review risks and identify the countermeasures being taken.

Response to COVID-19



The coronavirus disease ('COVID-19' hereinafter) was first reported in December 2019 and has since spread widely to make the World Health Organization (WHO) declare COVID-19 a pandemic, at its highest alert level. COVID-19 is exerting grave impact on the global economy as well as individual and public health, and is presenting unprecedented challenges to numerous companies across nations and industries. To address this emergency, Samsung SDI is developing a response system and is taking actions to minimize the impact of COVID-19 on its raw material sourcing, production, and employee health.

Protecting Employees from COVID-19 and Preventing Its Spread

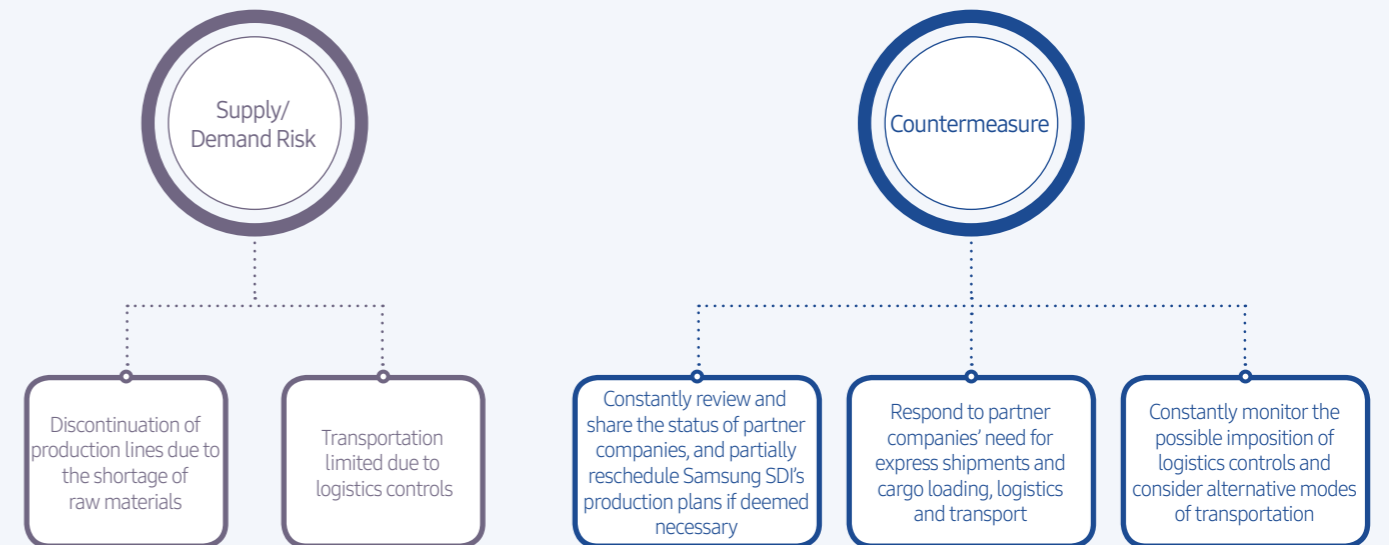
Samsung SDI is fully committed to protecting its employees from COVID-19 amid the rapid spread of this pandemic. We place employee health first before anything else, and have taken emergency measures since the early days of the COVID-10 outbreak including the operation of the COVID-19 task force, the placement of stringent facility controls, the operation of thermal imaging cameras, and the distribution of face masks and hand sanitizers.

COVID-19 Task Force Operation	Stronger Efforts for 'Social Distancing' among Employees
<p>Our COVID-19 task force was organized in January 2020 to serve as a control tower to prevent the spread of this disease among employees. With task force members coming from the Corporate HR Team, the Financial Management Team, the Communication Team, and EHS departments at the Headquarters, the task force has set forth standards and manuals on domestic/overseas business travels, business site access controls, access to multi-purpose facilities, group activities, employees with symptoms of fever, and disease control activities. Any and all updated standards are posted on our company-wide board to be shared across the company to help each and every employee to make proper responses and to prevent any possible confusion.</p> <p>Our employees are also asked to fill out mobile-format questionnaires during weekends and holidays to check whether they visited high-risk areas or show symptoms of fever and other specific medical conditions so that they could take self-quarantine measures if necessary. A work-from-home policy was also implemented for expectant mothers and those who gave birth less than six months ago and thus whose immune system is relatively vulnerable.</p>	<p>Stringent disease control measures were taken on worksites, dormitories, commute buses and other facilities used by employees, and elevators, handrails and other areas exposed to frequent physical contacts are disinfected frequently more than once every day. For some of our worksites, the operation of commute buses was expanded so that employees could seat with at least one seat empty between each other. Our in-house cafeterias extended their business hours and arranged all seats to face the same direction to minimize physical contacts between employees. The operation of in-house gyms, club rooms, and other multi-use facilities was suspended while teleconferencing was facilitated and on-the-job training and organizational events were temporarily discontinued. Samsung SDI considers employee health as its top priority and is fully committed to support the Korean government's 'social distancing' policy.</p>

Identifying and Addressing Impact on the Supply Chain

Constant Review of Raw Material Supply/Demand Risks and Countermeasure Development

Samsung SDI is identifying supply and demand risks that may occur due to the nationwide health concern of COVID-19, and is developing countermeasures to minimize impact on its manufacturing and sales.



Countermeasures to Address Mid/Long-term Raw Material Supply/Demand Risks	Expanded Support for Shared Growth with Partner Companies
<p>As a range of issues emerge across global regions, including but not limited to import restrictions imposed by Japan and the COVID-19 outbreak, this further highlights the importance of raw material supply/demand risk management. This prompted us at Samsung SDI to secure liquidity and perform preliminary verifications across our supply bases for the four primary materials (cathode, anode, electrolyte, and separator) and for major at-risk materials and components.</p>	<p>Samsung SDI has expanded support for partner companies who face difficulties due to the spread of COVID-19. The credit line of the Win-Win Cooperation Funds was raised to up to KRW 5 billion and early payments were made to partner companies to help them stabilize their business operations. Given that on-the-job training is not viable under current circumstances, online training courses were launched to continuously assist partner companies in building their employee capacity.</p>