



# ISSUES 01

## Workplace Health & Safety

### Business Relevance

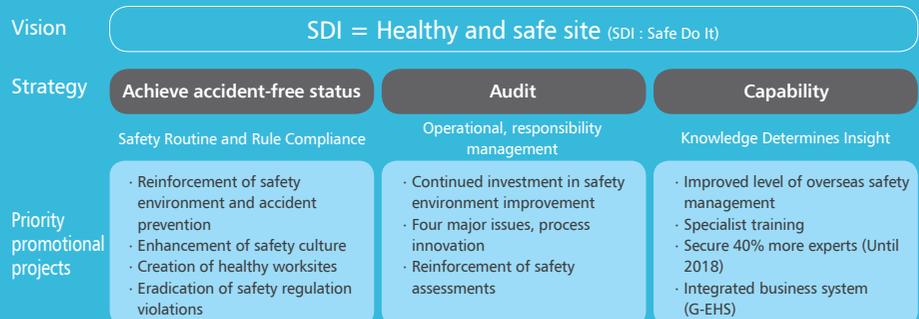
As demand for disclosure of companies' non-financial information is increasing, demand for disclosure of information related with health and safety is also growing due to rising social interest in these issues. Samsung SDI, due to the nature of its business, views management of safety and hazardous materials in domestic and international business sites as being essential. In particular, management of hazardous chemical materials and compliance of related laws and regulations are important factors in fulfilling social responsibilities of the company. Samsung SDI is working on reinforcing safety in domestic and international worksites and fulfilling our duty to proliferate a culture of safety within partner companies.

Risk	Opportunity
<ul style="list-style-type: none"> <li>▶ Incurring costs and reputational damage in the event of accidents</li> <li>▶ Increased demand for companies to disclose data on safety and environmental activities</li> <li>▶ Strengthened laws and regulations related to safety and environment</li> </ul>	<ul style="list-style-type: none"> <li>▶ Minimized damage of human lives and property by preventing accidents</li> <li>▶ Sharing and spreading a culture of safety with employees, suppliers, and local communities</li> <li>▶ Enhancement of corporate values by obtaining various certificates related to safety and environment</li> </ul>

### Our Approach

Samsung SDI is conducting safety culture evaluations per guidelines under the "A safe environment is the #1 principle of management" guidelines released by SDI's figurehead, the CEO. In response, the company also established long-term goals for transformation into a global leader of safety culture by 2018. To breed a safety-first management culture and minimize environmental impact, the company is endeavoring to generate a safety culture within domestic and international worksites through cooperation with partner companies.

### Our Vision



### Key Performance Index

KPI	2016 Target	2015 Target	2015 Performance	Achievement Level
Zero Safety Incidents	0	0	0.47	Not achieved

\* Employee injury rate (Number of accidents / Total work hours×1,000,000)



# Workplace Health & Safety

## Workplace Health & Safety System

### Health & Safety Strategy

Samsung SDI, under a long-term strategy which plans to see a bold leap forward into the upper ranks of the global group of safety culture by 2018, is making efforts to reinforce health and safety activities within its worksites. To achieve this goal, the company is promoting autonomous safety assessments and company-wide safety culture during 2016.

### Health & Safety Organization

As Samsung SDI reorganized its departments, the safety environment group which was under the safety environment infrastructure team, was reorganized under the head of business sites, allowing the group to be closely related with each department's characteristics and manage them responsibly. The company also introduced audit groups for the safety environment infrastructure team, whose role is serving as a control tower over the entire company, and these audit groups will conduct site inspections, evaluations, and diagnosis to emphasize the element of mutual reciprocity between headquarters and business departments. By balancing the planning organization with the executing organization and integrating the G-EHS system, Samsung SDI wants to re-position its organization and system so that synergies between the headquarters and its business divisions can be created.

\* G-EHS System: Global Environment, Health and Safety System

## Workplace Health & Safety Activities

### Implementation of Company-wide Safety Verification

In 2015, Samsung SDI executed a company-wide integrated safety inspection. The inspection conducted overall checks on hazardous elements such as injuries, illnesses, fire outbreaks, chemical leakages, contamination, or utility supply cuts, and urged its onsite managers to address managerial problems and inadequate items and invest in countermeasures, which will be executed no later than 2018, to bring about an improvement. In 2015, Samsung SDI invested 5.6 billion won in sites that showed high levels of danger and required immediate improvements. Likewise in 2016, the company organized four Task Force Teams (Smell, ignition hazard, electrolyte management, floor plan management) for cases with potential risks requiring foundational improvements, and invested 63.3 billion won in efforts to address vulnerabilities at the source.

### | Workplace Health & Safety System Map



## Proliferation of Safety Culture among Partner Companies

As a result of SDI's inspections of partner companies' workplaces to assess the compliance of mandatory safety support items, several violations related to worksite safety were discovered. In order to resolve safety related issues and clarify stances on safety regulation compliance, Samsung SDI amended segments of the Management Regulations for Safety Environment of Partner Companies to reflect its concerns and assist in reform of current structures.

## Execution of SSCA (Samsung Safety Culture Assessment)

Samsung SDI executed company-wide safety culture level evaluations per SSCA. The SSCA evaluation result showed that the company's overall level fell below the systemized phase (which is when "Safety environment management system is introduced and undergoes internalization.") However, the result also showed that the company is lacking in preventive management against accident responses. In response to this result, the company is putting forth its efforts to establish a voluntary safety culture in which all employees actively participate in taking a bold leap forward into the upper global ranks of safety success by 2018.

### | Safety Culture Improvement Goals

Steps	Improvement Goals	Definition
Creative Phase	Will be entered after 2019	The phase in which all members encourage each other to enhance the level of safety culture
Proactive Phase	Will be settled in 2018 Will be internalized in 2017 Will be entered in 2016	The phase in which all employees are autonomously and actively participating in safety environment activities
Systemized Phase Calculative	Current level as of 2015	The phase in which a safety environment management system is introduced and internalized
Reactive phase		The phase in which the company merely follows minimal requirements, such as laws, in a passive manner and takes reactive measures against accidents only after they actually occur
Ignorant Phase		The phase without any safety environment management operations

## Strengthening Safety Management at Overseas Business Sites

Samsung SDI, which operates its production sites all over the world, clearly recognizes the importance of safety management of overseas subsidiaries in global management. In particular, to swiftly respond to safety-related regulations that are legislated in individual countries where SDI operates a subsidiary, the company is developing nine major initiatives in three major core development areas, focusing on the reinforcement of overseas site inspections, nurturing and training of local employees. In 2016, in order to reinforce training for employees in overseas subsidiaries, the company plans to train expatriates at subsidiaries in Vietnam, Malaysia, and China(Xi'an, Wuxi, Tianjin) in particular.

### | Core Areas of Promotion for Safety Reinforcement Initiatives



## Reinforcement of Chemical Substances Management

In 2015, the chemical substances-related task processes were reorganized for the electronic material division, as well as small-sized and medium-large sized battery divisions. Also, the company plans to develop a chemical substance management system for the pre-checkup and control of chemical substances so that it can be applied by July 2016. In particular, the pre-evaluation of half-finished chemical substances, which had been performed offline until now, will be linked with the PLM (Product Lifecycle Management) system starting in July 2016, which will allow the establishment of a comprehensive evaluation system for all chemical substances.

## Correspondence to Domestic Laws

In relation to the Chemicals Control Act which has been effective since 2015, the company finished analyzing improvement points which require improvements for existing facilities in accordance with the Installation Standards for Chemical Handling Facilities, and it created long-term improvement measures for legal compliance and accident prevention. Extending further, in relation to such endeavors, it is supplementing related facilities.

To respond to the Act on the Registration and Evaluation of Chemical Substances, the company created a process to determine regulated substances and register them through external consulting companies in the initial evaluation phase of chemical substances, and is currently overseeing this process. For existing substances which require registration, the company is responding to regulatory compliance and relevant requirements by participating in a shared registration project with the Korea Chemicals Management Association. For complimentary samples which are impossible to apply systematic proactive management, SDI is operating a process in which the samples are checked before their clearance by the safety environment department with regards to their legal fulfillment requirements through discussions with tariff authorities.

### | Chemical Substances Management System

Sophistication and Standardization of Chemical Substances Management Level			
Established structures	Codification of all chemical substances	Reinforcement of control functions for handling chemical substances	Inventory Management
System Utilization	History Management utilizing Barcodes	Preliminary Evaluation and Utilization Management	Reagent Inventory Management
Plan of Action	Inventory management by utilizing codes and attaching accurate labeling for each reagent	Utilization History Management and Preliminary Evaluation of Chemical Substances	Inventory Management, Systematic reagent control

## Business Case

### Improvement of Business Site Safety Environment

The Gumi business site was awarded with the runner-up prize for its contribution and achievement in outstanding safety culture activities, as shown below, in the 2015 Samsung Safety Environment Awards competition which was held by the group's safety environment research lab. They built a Win-Win system by improved process efficiency through evaluation by behavioral observations. The observed behaviors were reflected in the micro operation procedure built up with the operations in the worksite, thus becoming a foundation in revising the operation procedure.



Micro Operation Procedure	Evaluation by Behavioral Observations	Managing Changes
<ul style="list-style-type: none"> <li>- Changed text-based procedure to picture-attached procedure</li> <li>- Refined operators' activities, removal of instability(2,400 cases)</li> </ul>	<ul style="list-style-type: none"> <li>- Observed operator activities and improved irrationality to harmonize the work</li> <li>- Recorded videos by task to improve the task performance</li> <li>- Conducted a field observation for risk evaluation as per production and safety environment</li> </ul>	<ul style="list-style-type: none"> <li>- Operation of the Change Committee by level and the Operation Council</li> <li>- Level A (Supervised by the Head of business site)</li> <li>- Level B (Supervised by the Head of Safety Environment Group)</li> <li>- Task Description</li> <li>- Based on the law/group, reflect the risk assessment result to designs</li> <li>- Creation and revision of the micro operation procedure</li> <li>- Operator training and inspections before operation</li> </ul>