

High Material Issue 07

Sustainable Supply Chain Support and Management

Samsung SDI's main supply chain is a partner company that supplies raw materials for products and is defined as a supplier of battery raw materials such as electrode plates, assembled materials, and PACK materials, and a supplier of raw materials of electronic materials such as SILICA. Samsung SDI strives to enhance the market competitiveness by pursuing mutual growth and cooperation with the partner companies. In 2016, we concluded mutual growth agreements with 250 1st/2nd tier suppliers and offer support and cooperation programs in finance, education, technology, new market opening and performance sharing to live by our mutual growth value 'we can go farther when we go together'.

Vision and Promotion System

Samsung SDI is promoting three major strategies, including support for 'supporting for competence', 'enhancing cooperation for future technology' and 'establishing fair trade' in all transactions, all aimed at realizing mutual growth through securing competitiveness.

Samsung SDI is operating the Win-Win Cooperation Group as part of the Strategic Sales Team under the Corporate Management Office to systematically promote strategies and tasks for mutual growth. The Win-Win Cooperation Group supports partner companies in terms of finance, technology and training for the supplier's better competence and conducts fair trade inspection activities.

Supporting partner companies to secure competencies

Aspects	Program
Enhancement of overall competency	Operation of cooperative projects and innovation guidance
Expansion of supports for win-win cooperation	Financial support, fair trade, technical support and protection, etc
Expansion of activities for mutual growth	Agreements, education, recruitment support, other direct/indirect supports (measuring instrument calibration support, etc)
Market support	Purchase conference, product exhibition, overseas B/M etc.
Secure manufacture competency	Innovation guidance and cooperation projects (public-private R&D, industry innovations etc)
Further supports to 2nd and 3rd tier suppliers	Industry innovation support, shared fund, Win-win payment system
Technical support and protection reinforcement	Government projects (Public-Private R&D, purchase condition, cost reduction etc), technology escrow, original trade secret certificate system etc.
Expansion of training experts	Adaptive counseling via recruiting supports and consulting agencies etc.
Vitalization of communications	Win-win portal, visiting partner companies and issuing co-prosperity news letters on a quarterly basis

Support for Securing Innovation Competence

Support for Competence Reinforcement Training

Samsung SDI is operating collective education through the Samsung SDI job training center for partner companies' employees to improve their job skills. In 2016, 727 employees were able to complete the collective educational program and 138 employees completed their job training through CREDU, an online training system. In addition, we offer the partner companies support for their recruiting process through providing partner companies' new employees with the collective trainings.

Support for Productivity Innovation

Samsung SDI dispatches its advisors to the partner companies to offer advisory services for productivity innovations. Through IBK Management Consulting, SDI provides professional consulting in areas such as management and finance. Aside from these efforts, Samsung SDI participates in projects promoted by the government, such as industry innovation movement, smart plants and invests KRW 600 million per year in 30 secondary/tertiary partner companies' innovation activities.

Support for Creating Domestic/Overseas Sales Channels

In order to help its partner companies to improve their performance, Samsung SDI supports the partner companies in the creation of domestic and international sales channels. We utilize the overseas corporation to provide expertise on the process required for overseas expansions while benchmarking international cases to help build local infrastructures. Furthermore, we inspect follow-up management, actual conditions and how product origins are managed. In addition, Samsung SDI helps the partner companies participate in purchase conferences hosted by the government or by Samsung SDI to give them opportunities for the increase in sales.

Financial Support

Payment and Funding Support

Samsung SDI oversees payment and funding support to build financial soundness and stable management of partner companies. The payment condition of the company, in relation to due payment, is that the company would pay 100% in cash within 10 days of cutoff which occurs 3 times every month. For completed payments before holidays, the company pays earlier than the cutoff. In terms of funding support, SDI provides direct support, with no-interest fund loans, combined support, such as a shared cooperation fund which is initiated together with financial institutions. It also provides indirect support, such as network loans and family loans, and special support such as Industry Innovation Movement, private/public R&D, and the achievement sharing system.



Target: 8.3

Win-Win Payment System

Samsung SDI introduced the Win-Win payment system in November 2015, and has been operating the system ever since. Through this system, the company allows secondary and tertiary partner companies to convert bonds issued from Samsung SDI into cash at commercial banks with the same fee level as that of large companies. In 2016, 26 partner companies participated and we plan to expand the scale.

Enhancement of R&D Cooperation

Technology Support and Protection

Samsung SDI participates in Public-Private Investment Programs for Technology Development projects to support its partner companies with R&D costs for new product and technology up to KRW 1 billion. Likewise, the company is operating 'Tasks with Conditions of Purchase' which supports the partner companies with new development assignment fees, under the premise that Samsung SDI would purchase their products. By operating a technology escrow system the company provides a place for partner companies to store their technologies safely when engaging in cooperation between large companies and SMEs, and protects the partner company's rights if any technology leakages occur. In 2016, Samsung SDI introduced the original trade secret certificate system to protect technical and management information of the partner companies and supports the information registration costs.

Achievement Sharing System

Achievement sharing system is an institution where commissioning companies share results of development of new technologies, improvement of the process and quality, with commissioned companies under a pre-agreement. Since the introduction of this system in 2012, Samsung SDI has been doing 30 projects. In case of company A, the company was able to develop the secondary manufacture technology that is highly efficient and automated, which gave us a differentiated competitive edge against its competitors. This resulted in a better yield and process, and improvement of manufacture capabilities while reducing costs.

S-Partner system

Assessment Process

All Samsung SDI partner companies in contractual relationships are subject to self-initiated diagnoses and due diligence by Samsung SDI at least once every two years. The evaluation criteria includes labor, environment, health and safety, ethics, compliance management, and management system, which are the five major areas of the EICC Check sheet. Evaluations are conducted through self-diagnosis of partner companies and due diligence by consultants assigned by Samsung SDI, whereas the S-Partner certificate is issued for companies which score over 80 points as a result of due diligence. If a partner company receives "A" class two or more times, it will be designated as an S-partner and granted autonomous management. Pollution emissions, legal violations, uncontracted personnel under labor contract, child labor (applicable to national legislation) are set as issues related to mandatory requirements, and partner companies that violate these standards are to be considered for suspension of trade.

BUSINESS CASE



Samsung SDI Shared Growth Day

Samsung SDI held 'the 2016 Shared Growth Day' at the North Chamber of Commerce in the Chungcheong South Province in November 2016. In this day, a total of 150 people, including CEOs of its partner companies and stakeholders of the Shared Growth Committee participated in the event. The Shared Growth Day, as a representative communication channel to communicate with partner companies, is a platform where the performance of Samsung SDI's shared growth in the last year and a plan for the next year are shared. In this event, Samsung SDI's three key strategies of shared growth such as 'supporting for competence' by reinforcing innovation guidance for all areas of management, 'enhancing cooperation for future technology' by vitalizing cooperative projects and training specialists, and 'establishing fair trade' to support shared growth were presented. In addition, the best practice of innovation from partners companies in 2016 including Korea Innotech and Shinheung SEC were shared to seize more opportunities to develop cooperative business models. Moreover, while managers of purchasing divisions and shared growth divisions from the Samsung's 10 affiliates including Samsung Electronics, Samsung Electro-Mechanics participated in the event, partner companies were able to promote their brands and pioneer the market by exhibiting their products. Samsung SDI will be dedicated to promoting shared growth with its partner companies in the future, too.

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Operation Status and Aspects for Improvement in 2016

In 2016, Samsung SDI conducted assessments for 91 partner companies in Korea, China, Malaysia, and Vietnam (28 of them or 31% are new partner companies in 2016). According to assessment results, there were no violations of mandatory requirements, including child labor. In 2016, the company created education programs on labor contracts, environmental law registration, ethics, and waste storage and disposal, as a result of feedback from evaluations. Furthermore, SDI dispatched specialists on the environment, safety and health, and utility to partner companies.

Target and Evaluation Direction in 2017

In 2017, Samsung SDI plans to evaluate 100 domestic and international partner companies. Especially, we plan to strengthen our partner companies' compliance systems by providing support such as environment management training, CSR training, and standardization of inspection methods. Furthermore, we will reinforce the S-Partner Check Sheet by revising S-Partner Check Sheet items and create manuals for evaluation standards for each item. Finally, Samsung SDI plans to improve the system to issue result reports, plan of improvement, and certificates, and to develop the English version for convenience of the foreign users.

S-Partner certification process



Conflict Mineral Monitoring System



* 3TG : Tantalum, Tin, Tungsten, Gold

Responsible Sourcing

There are increasing social attentions and concerns on responsible sourcing of raw materials that are used in our products such as minerals.

Samsung SDI strives to be socially responsible for every sourcing process of the raw materials used in our products from mining to processing and procurement.

Policy Improvement

In 2016, Samsung SDI revised the code of conducts and compliance agreement of the partner companies to reinforce our social responsibility on sourcing in order to meet the requests from various stakeholders, including our customers. The revision adds the ban on using minerals involved with the violation of human rights such as child labor, safety and health at work place on top of banning to use conflict minerals (tantalum, tin, gold and tungsten) in Democratic Republic of the Congo and its neighboring countries that was already stated in the previous version. It also expanded and specified the scope of responsible sourcing by explaining about on-site audit.

* The details of code of conducts and compliance agreement of the partner companies can be found at <http://www.samsungsdi.com/sustainable-management/sustainability/supply-chain-responsibility.html>

Policy for Conflict Minerals and Improvements

In order to ease concerns on procurement practices of conflict materials (tin, tantalum, tungsten, and gold) that are used in our products, Samsung SDI has developed relevant policies and tried to eradicate to use conflict materials since 2011. We conduct regular trainings to the partner companies and implemented the system that analyzes the customer requirements and findings for improvement in the partner company's web portal (SRM) and intranet (SMIS). We collect information on smelter and the place of origin and are updated on 3TG usage status from the partner companies through this system for verification and management.

In 2016, we strived to increase the number of smelters that is CFS certified for those that supply four major minerals to the partner companies and plan to further increase them in future.

Response to Cobalt Issue

With the rise of issues related to cobalt purchased from artisanal and small-scale mining (ASM) of Democratic Republic of the Congo in 2016, many reports are to address child labor, safety and health issues at work sites and social/environmental issues that occurred during the mining and procurement process. Although cobalt is extensively used as cathode active material for the battery of mobile devices and electric vehicles, it has not been accounted for social responsibility risk of the supply chain as cobalt is not regulated by the Conflict Minerals Law.

In order to meet the requests from the stakeholders, including our customers, and to clarify social responsibility of cobalt supply chain, Samsung SDI established the strict principle on child labor, safety and health, and environment relevant to cobalt supply chain in 2016 and reflected this into the partner company's code of conducts. Samsung SDI requires the partner companies to identify every smelter and enhance the transparency in access to the documents and record in the revised code of conduct and compliance agreement by complying with OECD guideline. In addition, Samsung SDI visited seven 1st tier suppliers for cathode material and four cobalt precursor suppliers based on 'OECD/CCMC guideline for responsible mineral supply chain' in order to capture the current status of cobalt supply chain and to secure the transparency.

In addition, we sponsored an external research organization for its fundamental research projects on copper mine regions of Democratic Republic of the Congo.

In November 2016, Responsible Cobalt Initiative (RCI) was established in order to improve the problems on social responsibility of the cobalt supply chain. Samsung SDI will show joint efforts to solve the cobalt issue by cooperating with upstream and downstream companies of the cobalt supply chain in RCI.

In June 2017, Samsung SDI issued 'Progressive Report for Responsible Cobalt Supply Chain' for the first time in the battery industry that describes our detailed actions on cobalt issues. With this, we expect to enhance the transparency of cobalt supply chains and improve cobalt issues based on feedbacks from the stakeholders.

* Samsung SDI's 'Progressive Report for Responsible Cobalt Supply Chain' can be found at <http://www.samsungsdi.com/sustainable-management/sustainability/supply-chain-responsibility.html>

Key Performance Index

KPI	2017 Target	2016 Target	2016 Performance	Achievement Level
Financial support (KRW 100 million)	Continued Expansion	267	438	Achieved
Group and online training(Persons)	1,030	632	865	Achieved
S-partner certification achievement (Case)	100	100	91	Not achieved

OECD Guideline – 5 Step Framework



* Samsung SDI's policy on responsible cobalt supply chain was established in accordance with "OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas".

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Input



Shared growth agreement	Unit	2014	2015	2016
Primary partner company	EA	75	140	112
Secondary partner company	EA	105	174	140
Purchase from companies with agreement	KRW 100 million	678	696	3,551



Purchase cost	Unit	2014	2015	2016
Total purchase cost	KRW 100 million	30,366	29,634	37,751
Raw material purchase	KRW 100 million	26,094	24,990	28,590
Facility purchase	KRW 100 million	2,368	2,852	3,511
MRO purchase (incl. packaging material)	KRW 100 million	739	775	592
Subcontract cost	KRW 100 million	1,165	1,016	5,058
Local purchase of supplier	%	48	45	46



Shared growth support activity	Unit	2014	2015	2016
Financial support				
- Direct support (Mold cost credit support)	KRW 100 million	135	126	156
- Hybrid support (co-prosperity fund amount)	KRW 100 million	270	270	270
- Special support (training etc)	KRW 100 million	5	15	12



Direct/indirect management support				
- Group training (partner company)	Persons (Company)	613(122)	320(102)	727(86)
- Online training (partner company)	Persons (Company)	267(20)	162(18)	138(9)



- Recruiting support	Persons	61	60	53
- Recruiting support	Company	13	13	6
- Innovation guidance	Company	-	13	10



Output



Intellectual
Capital

Shared growth support achievement	Unit	2014	2015	2016
Technical support and protection achievement				
- Private-public joint investment development project	Case	6	3	1
- Conditional purchase (Localization task)	Case	-	1	1
- Original trade secret certificate system	Case	-	-	5
- Technical escrow system	Case	14	15	15
New market penetration support achievement				
- Purchase conference	Case	-	6	7
- Product exhibition for partner companies	Case	-	1	1
- Overseas benchmarking support	Case	-	2	2
- Overseas corporation investment authority info session	Case	-	1	1
- Support to participate in foreign technology exhibition	Case	-	1	2



Intellectual
Capital



Human
Capital

S-partner certification achievement	Unit	2014	2015	2016
Korea	Case	67	66	62
Overseas	Case	31	24	29
Total	Case	98	90	91
Unqualified partner company	EA	6	4	-



Manufacture
Capital

Major violations by S-Partner	Unit	2016
Violations of child labor/forced labor	Case	-
Non-compliance of requirements under labor contract	Case	18
Inadequate contamination prevention and waste management	Case	35
Unsatisfactory equipment for workplace safety & health	Case	62