



Responsible Procurement

P109. Sustainable Supply Chain Management

P117. Management of Conflict Minerals

A Promoter of Shared Value

Suppliers have always been Nanya's most important business partners. We aim to enhance cooperation to create greater value and share the value and benefits of cooperation and create a sustainable future.

100%

Nanya requires 100% of critical suppliers to complete the self-assessment to control sustainability risks in the supply chain.

3,315 MWh

Electricity saved through cooperating with suppliers on energy-saving projects was estimated to exceed 3,315 MWh in 2021

NT\$ 45,100,000

Refunded a total of NT\$45.1 million to migrant workers of suppliers and benefited 2,009 migrant workers



Strategy and Performance of Material Topics

Sustainable Supply Chain Management

Management of conflict minerals: No conflict minerals have been used in any of Nanya's products

Supply chain risk management: Implement regular "quality, delivery, service, cost, technology, and sustainable management" evaluations for suppliers

2022 Goals	2021 Goals	Target achievement status
Use of non-conflict minerals: 100%	100%	● 100%
Critical suppliers' completion of the self-evaluation questionnaire: 100%	100%	● 100%
Completion rate of deficiency improvements by suppliers with high sustainability risk in audits: 100%	100%	● 100%
100% of suppliers signing the Supplier Code of Conduct	100%	● 100%

● Exceeded ● Achieved ● Partially achieved

Sustainable Supply Chain Management

Sustainable Supply Chain Development Strategies

Nanya firmly believes that the sustainable growth of supply chains has certain impacts on corporate sustainable development. Therefore, we actively invest related resources and cooperate with suppliers to drive sustainable growth of the overall supply chain and achieve shared value.

Nanya's sustainable supply chain development strategies:

Sustainable supply chain risk management
Implement risk assessment through self-evaluation questionnaires for suppliers, and strengthen supplier risk management through audits and improvement tracking

Supply chain cooperation and exchanges
Periodically organize supplier conferences and supplier evaluations on the basis of cooperation and mutual aid, and provide guidance for suppliers to increase social, economic, and environmental benefits, in order to achieve sustainable development of the overall supply chain

Improve the sustainability of supply chains
Nanya pays attention to environmental and social sustainability issues while pursuing economic benefits, and continues to work with suppliers in projects related to sustainability

Non-use of conflict minerals
Nanya is committed to a responsible procurement management strategy for the ban on conflict minerals to satisfy current and future market, legal, and regulatory expectations.

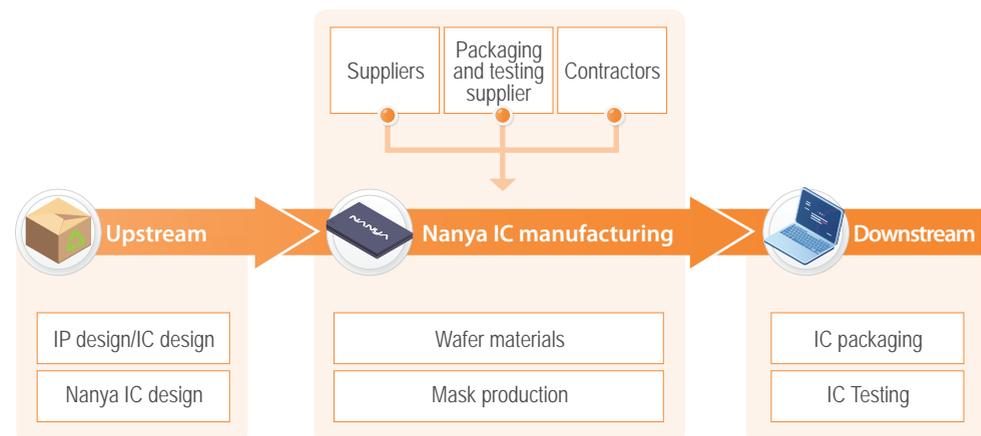
Nanya Industrial Chain

The IC industry (including DRAM) is categorized into upstream IC design, mask making/wafer materials, midstream IC production, and downstream IC packaging and testing. Nanya is committed to the research and development, design, production, and sales of IC products and we are primarily responsible for upstream IC design and midstream IC production in the industrial supply chain.

To improve the efficiency of customer service and effectively build closer relationships with customers in the upstream product design and testing and verification stages, the head office provides customers' technical solutions in various regions, including Taiwan, mainland China, Southeast Asia, Europe, America, Japan, and South Korea. In response to customer's requests, we irregularly exchange technologies with customers, provide technical support, and assist in solving the problems faced by the customer's engineering staff in design and testing.

The Company continuously communicates with customers in the midstream production and sales stages and report weekly to the head office on the feedback of customers' future demand forecasts. The head office aggregates the demand forecasts around the globe and converts them into production plans, which are adjusting weekly to meet customers' needs and maximize the benefits. In the meantime, we cooperate with downstream contractors to form a complete industrial value chain.

Nanya Industrial Chain



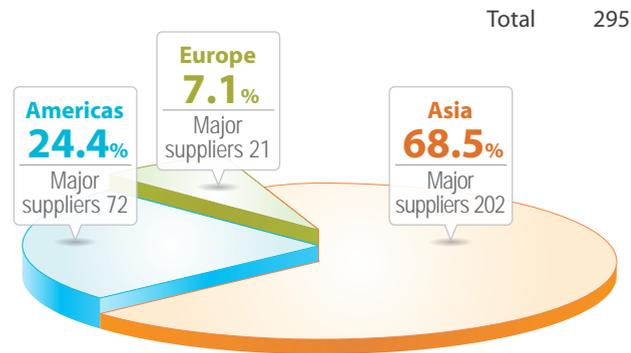
Supply Chain Overview

Nanya's suppliers include "suppliers" and "contractors". Major supplies are divided into two main categories, "production materials" and "non-production materials." Production material suppliers are the Company's major suppliers and divided into critical suppliers and professional spare parts suppliers.

Critical suppliers refer to suppliers of raw materials directly used in production and materials (refers to photomasks and CMP PAD) that have a significant effect on product quality. Professional spare parts suppliers are suppliers of spare parts for production machinery in clean rooms, including packaging materials for shipment. Please refer to the appendix for the list of critical suppliers in 2021.

The number of them totaled 295 in 2021, in which 80 are critical suppliers. Not only do we continue to promote the concept of sustainable operations, but we also work with suppliers jointly on constructing a resilient and sustainable supply chain to implement corporate sustainability.

Regions where main suppliers are located are shown in the table below



Number of suppliers and ratio of procurement amount

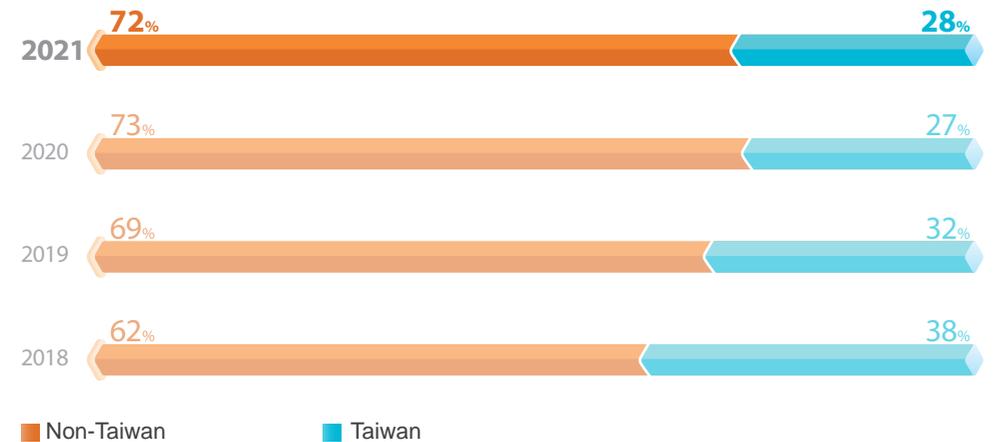
	2018	2019	2020	2021
Number of major suppliers (Tier 1)	270	330	304	295
Number of critical suppliers	80	82	82	80
Number of non-tier 1 critical suppliers	32	40	80	90
Proportion of critical suppliers (%)	30%	25%	27%	27%
Proportion of procurement from critical suppliers (%)	77%	68%	68%	72%

Note: Major suppliers include critical suppliers and suppliers of specialized spare parts

Local Procurement

Nanya prioritizes local procurement to facilitate stable development and cooperation with suppliers, provide faster service time, shorten delivery time, reduce unnecessary costs, and reduce the impact on the environment. However, as semiconductor equipment and technologies mostly involve foreign production or international collaboration, most of the materials used in the semiconductor industry are still produced in foreign countries. This has led to larger foreign procurement compared to domestic procurement. Nanya shall continue to cooperate with local suppliers to expand procurement and employment opportunities in Taiwan and create greater value in partnerships with suppliers.

Percentage of local materials procurement amount in 2018-2021



Sustainable supply chain risk management

Sustainable Supply Chain Management Process

Nanya established a sustainable supply chain management process. We use sustainability regulations, sustainability risk surveys, on-site sustainability audits/improvement measures, and supplier capability development to manage and control supply chain risks and strengthen suppliers' sustainability performance. We hope to drive suppliers to grow with us and exert more shared value and influence through a series of sustainability management processes.

In addition to continuous requirements on the aspects of quality, delivery, and service, Nanya also established related risk management mechanisms. When external factors (such as: natural disasters, diseases, changes in global major events) result in the risk of running out of materials, Nanya immediately initiates emergency response. Related departments, including materials, quality assurance, and engineering, jointly and swiftly formulate response plans, and review aspects of checking on material inventory, asking backup suppliers for materials, increasing stock levels of materials, and reviewing material consumption in process to monitor the risk.

Signing the Supplier Code of Conduct

For our suppliers to understand and implement corporate sustainability step by step, we established the Supplier Code of Conduct, and provided suppliers with comprehensive training and education with training coverage rate reaching 100%. The Supplier Code of Conduct contains the supplier/contractor code of conduct of Formosa Plastics Group, the RBA Code of Conduct, and regulations and requirements related to conflict-free minerals. Suppliers must make a commitment to abide by corporate social responsibility regulations before signing contracts with the Company.



Sustainability regulations

- Supplier Code of Conduct:
- Responsible Business Alliance (RBA) Code of Conduct
- Regulations and requirements related to conflict-free minerals



Active risk assessment and surveys

- Establish management system for verification and investigations based on the RBA standards
- Inspection items include labor, health and safety, environment, code of ethics, and management system



Sustainability risk assessment questionnaire

- Issue self-assessment questionnaires to major suppliers
- Determine high-risk suppliers



On-site sustainability audits/improvement measures

- On-site audit
- Document review
- Employee interviews
- Issue CAR for discrepancies found in audits
- Follow up on improvement for defects



Develop supplier capability

- Organize supplier award ceremonies

Statistics of major suppliers^{Note1} that signed the Supplier Code of Conduct

Number of major suppliers



Number of major suppliers that have already signed



Percentage of major suppliers that have already signed (%)



Percentage of critical suppliers that signed the Supplier Code of Conduct



■ Number of critical suppliers
■ Number of critical suppliers that have already signed
■ Percentage of critical suppliers that have already signed (%)

Note 1: Major suppliers include new suppliers and existing suppliers

Supply Chain Management Strategy

When Nanya is selecting suppliers that directly produce materials, the suppliers must go through rigorous evaluations and reviews in addition to third-party verifications, including ISO 9001 and ISO 14001. We use a digital supplier assessment and management system to conduct assessment of the Company's six supplier management strategies: "quality, delivery, services, costs, technology, and sustainable operations". The score for sustainable management indicators (sustainable operations) accounts for 10% to ensure compliance with the Company's requirements for sustainable supply chain development.

Six Strategies for Supply Chain Management^{Note1}



Note 1: The five most important supplier management strategies are: "quality, delivery, service, technology, and sustainable development"

Note 2: Sustainable operations - Green environment evaluation items include the ISO 14001 certification, energy and resource conservation, reduction in greenhouse gas emissions, and waste recycling rate.
 - Corporate social responsibility evaluation items include compliance with local labor laws and regulations.

Supply Chain Sustainability Risk Survey and Assessment

To ensure the supply chain's implementation of sustainability, Nanya distributes Technology Corporation Supply Chain Code of Conduct Questionnaire to major suppliers each year. All major suppliers have to conduct self-assessment, fill in the questionnaire, and hand it back. Suppliers are required to reply the implementation status of various sustainability issues on the questionnaire and provide certification documents issued by related management systems. The results of the suppliers' self-assessment questionnaires shall be adopted as the basis of sustainability risk management and as reference for Nanya's assistance to achieve supply chain sustainability. The content of questionnaire mainly focuses on potential impacts that suppliers might make on the three aspects of economic, social, and environmental. (For example, Potential impacts on the social aspect include labor practices/human rights standards/business ethics/health and safety. Potential impacts on the environmental aspect include environmental management/greenhouse gas. We analyze the results of the suppliers' self-assessment questionnaires, screen 5% of high-risk suppliers for onsite audits, and provide assistance for improvements.

In 2021, all major suppliers (including critical suppliers) completed sustainability risk assessment. (The Company distributed the self-assessment questionnaires to 295 major suppliers and all of them handed the questionnaires back.) After analysis of the questionnaires, a total of 20 high-risk major suppliers were identified in 2021. High risks on three aspects were as follows. In regard with high-risk suppliers, we had performed document review and onsite audits.

Economic aspect

Failed to establish a conflict-free minerals policy



Social aspect

Failed to establish regulations prohibiting discrimination, failed to prohibit the use of child labor and provide remedies in case of unintentional use, failed to explicitly state that anonymous reports are acceptable and do not have any mechanisms for handling anonymous complaints and feedback, failed to establish complete personal data protection regulations and letter of consent for use of personal data



Environmental aspect

Failed to implement identification procedures of safety and health regulations, failed to implement identification procedures of environmental protection regulations



Supplier sustainability risk assessment

	2021	2020	2019	2018
Major suppliers <small>Note</small>				
Number of suppliers surveyed	295	304	330	270
Response rate 2022 Goals: 100%	100%	100%	100%	100%
Number of high-risk suppliers	15	16	17	14
Percentage of high-risk suppliers (%)	5%	5%	5%	5%
Critical suppliers				
Number of suppliers surveyed	80	82	82	80
Response rate 2022 Goals: 100%	100%	100%	100%	100%
Number of high-risk suppliers	4	5	5	1
Percentage of high-risk suppliers (%)	5%	5%	6%	1%
Non-tier 1 critical suppliers				
Number of suppliers monitored 2022 Goals: 90	90	80	40	32
Response rate 2022 Goals: 100%	100%	100%	100%	100%
Number of high-risk suppliers	5	4	2	3
Percentage of high-risk suppliers (%)	5%	5%	5%	10%

Note : Major suppliers included critical suppliers.

Supply Chain Sustainability Audit

In addition to screening high-risk suppliers for audits based on the results of self-assessed Nanya Supply Chain Code of Conduct Questionnaire each year, to strengthen sustainability risk management of supply chains, conducting onsite audits for critical suppliers at least once every three years starting in 2020. As of the end of 2021, a total of 67 critical suppliers (including high risk suppliers) have been audited, in order to ensure the supply chain's implementation of sustainability.

The audit coverage rate of high-risk suppliers was 100% in 2021. We audited 20 high-risk suppliers (including 15 high-risk major suppliers and 5 high-risk non-first tier critical suppliers) on their sustainability performance. The audit results showed that high-risk suppliers had 81 non-compliance items, but high-risk non-tier 1 suppliers had zero. In regard to non-compliance items, the Company issued a Corrective Action Request for follow-up and improvement.

Sustainability audit table of high-risk suppliers

	2021	2020	2019	2018
Numbers of audited suppliers 2022 Goals: 20	20	20	19	28
Average audit score	88	81	82	90
Number of non-compliance audit items	81	64	112	39

Sustainability audit table of high-risk suppliers

2021	2020	2019	2018
Category and number of violations: Labor ethics			
8 items involving not having work rules formulated or approved violated -16 items involving human rights or employment discrimination violated -2 items involving work hours and wages violated -4 items involving grievance mechanisms violated -4 items involving information security violated -7 items involving reward and punishment procedures violated -5 items involving moral standards A total of 46 items improvement rate 100%	5 items involving not having work rules formulated or approved violated -13 items involving human rights or employment discrimination violated -7 items involving work hours and wages violated -6 items involving grievance mechanisms violated -2 items involving information security violated -3 items involving reward and punishment procedures A total of 36 items improvement rate 100%	22 items involving human rights or employment discrimination 4 items involving not having work rules formulated or approved 14 items involving work hours and wages 3 items involving grievance mechanisms 3 items involving reward and punishment procedures 8 item involving training, education, and communication A total of 54 items improvement rate 100%	1 instance of forced labor 2 penalty records 7 items involving work hours and wages 1 item involving training and education 3 items involving discrimination 3 items involving child labor/youth labor 2 items involving information security 1 item involving female night shift 1 violation of labor regulations A total of 21 items improvement rate 100%

Category and number of violations: EHS			
19 defects in labor safety operation control 2 defects in health operation control 5 defects in fire safety operation 9 defect in environmental protection operation control A total of 35 items improvement rate 100%	2 violations of environmental safety regulations 8 defects in labor safety operation control 6 defects in health operation control 11 defects in fire safety operation 1 defect in environmental protection operation control A total of 28 items improvement rate 100%	9 violations of environmental safety regulations 39 defects in labor safety operation 4 defects in environmental protection operation 6 defects in fire safety operation A total of 58 items improvement rate 100%	4 items involving fire safety 8 items involving labor safety operation control 6 items involving environmental information updates on public websites A total of 18 items improvement rate 100%

Supply chain cooperation and exchanges

Nanya has established the Material Review Board (MRB), and uses systematic procedures, including supplier evaluations, audits, assistance and improvement for discrepancies found in audits, performance evaluation, and award ceremonies for outstanding suppliers to implement sustainability requirements in daily management of the supply chain on the basis of cooperation and mutual aid. The evaluation items include supply chain performance, quality system, customer satisfaction, timely delivery, and environmental safety.

Supplier Seminar

In order to respond to trends in corporate sustainability, enhance sustainability awareness in the supply chain, and expand influence to the entire product value chain, we continued to hold the 2nd Nanya Sustainable Supply Chain Seminar in November 2021, inviting scholars from the Taiwan Academy of Corporate Sustainability (TACS) and 22 critical suppliers to jointly participate in corporate sustainability. The sustainable supply chain management strategy of Nanya was promoted during the seminar, and issues of concern were shared with suppliers. Suppliers (GlobalWafers Co., Ltd. and Powertech Technology Inc.) shared the measures they implemented for environmental and social sustainability, so that other suppliers attending the event can learn from each other. Furthermore, Professor Allen H. Hu at the Taiwan Academy of Corporate Sustainability was invited to analyze supply chain management trends. Exchanges during the seminar allow us to jointly move forward on the path to sustainability together with suppliers.



Supplier Annual Evaluation

Nanya uses the annual assessment to convene seminars and discuss requirements regarding production with suppliers. We also educate suppliers about related sustainability topics on an ad hoc basis. In addition, we organize award ceremonies for outstanding suppliers based on the results of the annual assessment. During the ceremonies, senior executives directly communicate to suppliers regarding goals and requirements of the supply chain for quality, technology, delivery, services, costs, and sustainable operations. We compared suppliers of raw materials, components, and equipment in 2021 and presented awards to 8 outstanding suppliers.



2021 Supplier Award Ceremony



Improve the sustainability of supply chains

Supply Chain Sustainable Development Projects

Human rights risks of contractors' migrant workers

Suppliers' stable and good supply capabilities come from stable production manpower and friendly working environments. Migrant workers are indispensable sources of labor for a majority of factories. However, most of migrant workers are brought to Taiwan through manpower agencies, which is prone to high risks of human rights management. Therefore, we have promoted the human rights protection for migrant workers to be the main theme of our sustainability project in the supply chain. We started to assess human rights risks of contractors' migrant workers in 2019. The assessment was based on the provisions of Freely Chosen Employment in the RBA Code of Conduct, including, voluntary work and redundancy, zero fees for workers and not holding their identity cards and personal certificates under any circumstances, and no unreasonable restrictions on workers' freedom of movement and their primary movement areas. We continued to implement the project of human rights protection for migrant workers in 2021. The project targets the top 25% critical suppliers in terms of transaction amount and employee migrant workers, aspects include: Zero payment (including commissions, fees of accommodation, transportation, documentation, and health checkups), installing lockable safe boxes for storage of important documents and possessions, direct remittance of wages to employees' bank accounts, free access to working and living space, holding religious and cultural activities, and preventive measures against infectious diseases. In 2019-2021, the amount refunded totaled approximately NT\$45.1 million, benefiting 2,009 migrant workers.

Asking suppliers to implement energy-saving activities

Implementation of energy saving projects

Climate change is a critical topic facing the entire world in this century. The Company has actively promoted energy management programs for years. During the sustained promoting process, we have considered sharing our experience of energy management improvements with suppliers with relevant equipment, so the suppliers may implement effective energy-saving programs to lower their energy consumption. Suppliers selected by Nanya in energy conservation projects are mainly suppliers of equipment that consume relatively more electricity, and include 14 packaging and testing contractors and raw materials and photomask suppliers. We saved over 3,351 MWh of electricity and reduced emissions by 1,664 metric tons CO₂e in 2021. Improvement items include ice water pump, cooling water pump, and freezer replacement.

Supplier renewable energy procurements

Nanya held meetings promoting the use of renewable energy by suppliers, in order to accelerate the use of renewable energy to replace fossil fuels, and achieve energy transition to control global temperature rise within 1.5°C. Many suppliers responded and will purchase 23 million kWh and above of green electricity before 2023.



Management of Conflict Minerals

Nanya is committed to a responsible procurement management strategy for the ban on conflict minerals to satisfy current and future market, legal, and regulatory expectations. We aim to meet requirements for the ban on conflict minerals and bear responsibilities specified by the Responsible Business Alliance (RBA) and satisfy the Responsible Minerals Assurance Process (RMAP). Nanya's 6 tier-1 contractors and 7 tier-1 materials suppliers have completed investigations on conflict minerals in their supply chains, and confirmed that all 34 of the Tier-2 and Tier 3 minerals suppliers in the supply chain meet requirements of the Responsible Minerals Assurance Process in the smelter survey, making substantive contributions to the environment and the industrial supply chain.

Contractors and raw materials suppliers that use 3TG and cobalt are required to comply with our policies.

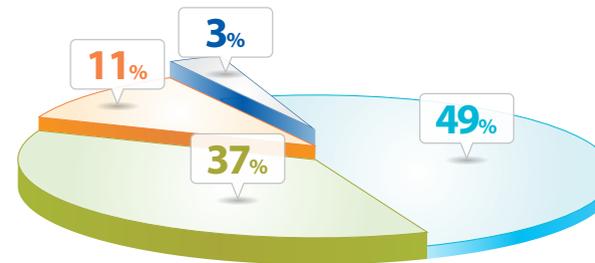
Hence, users or suppliers of 3TG use the Conflict Minerals Reporting Template (CMRT), while users or suppliers of cobalt use the Cobalt Reporting Template (CRT) as survey tools to provide survey results on the source of 3TG and cobalt, in order to ensure that the supply chain is not a part of actions by warlords or armed groups that harm basic human rights, and complies with the responsible minerals assurance policy.

Nanya's production line increased production of wafers, packaged IC, and DIMM modules. As a result, the number of 3TG and cobalt smelters replied by the supply chain increased by 45 from 181 to 226 smelters in 2021.

Nanya began adding the Statement of "Comply with RMI Policy and Conflict Mineral-Free" on its product labels in 2022, declaring that none of our products use conflict minerals.

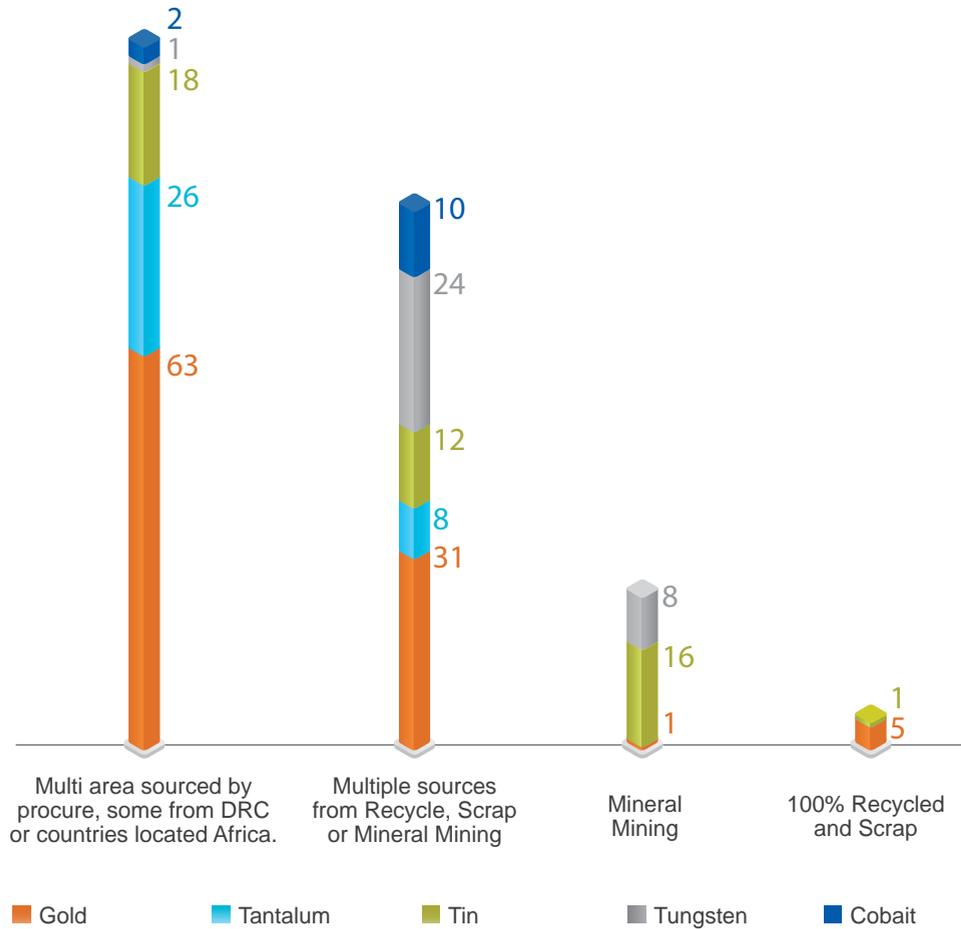


Source of responsible minerals



- Multi area sourced by procure, some from DRC or countries located africa.
- Multiple sources from Recycle, Scrap or Mineral Mining
- Mineral Mining.
- 100% Recycled and Scrap

Source of responsible minerals

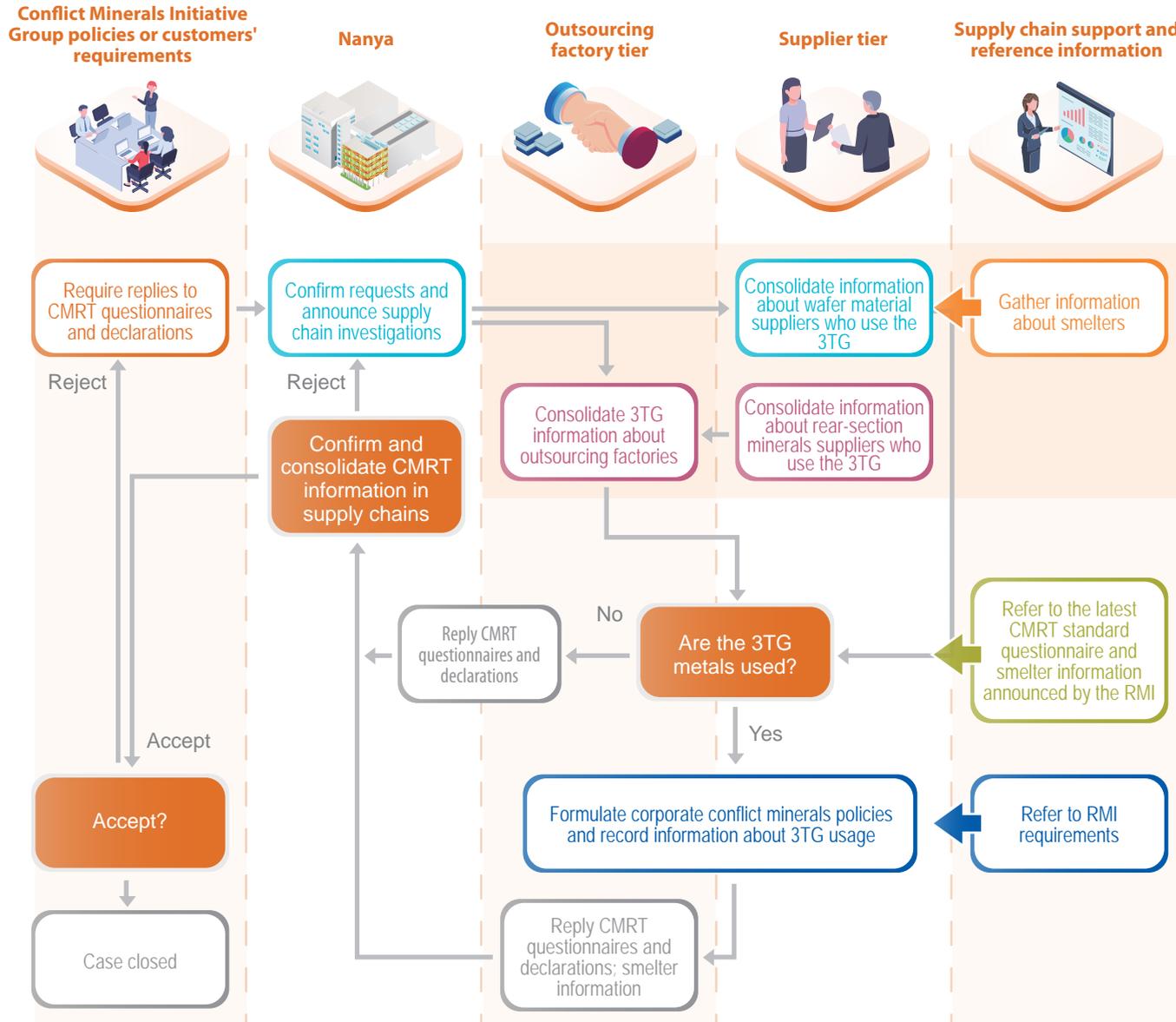


Minerals used in our existing products are gold, tantalum, tin, tungsten, and cobalt, collectively referred to as 3TG. Approximately 25% of the 55 smelters replied that the source of the minerals might come from the Democratic Republic of the Congo or neighboring countries as well as from recycled or discarded metals. The 55 smelters have confirmed that the source of all the minerals conformed to the Responsible Minerals Assurance Process (RMAP) policy, and were accredited by the Responsible Minerals Initiative (RMI) team as legitimate smelters.

Applications of gold, tantalum, tin, tungsten, and cobalt used by the Company are as follows:

Gold	Tantalum	Tin	Tungsten	Cobalt
Applicable product				
RDL, IC, DIMM	wafer, DIMM	IC, DIMM	wafer, DIMM	wafer, DIMM
Application category				
Gold-plated layer and gold wire	Wafer manufacturing target material and passive components alloy material	Solder paste, solder ball, and tin wire	Wafer manufacturing target material and passive components alloy material	Wafer manufacturing target material and passive components alloy material

Procedures for the Management of Conflict Minerals



Investigation Preparation

Nanya's supply chain maintains multi-level supply chain relations with the raw ores. Before investigations, we shall inspect the supply chain materials and define the applicable categories of gold, tantalum, tin, tungsten (3TG) and cobalt in the Company's products. We shall screen and select suppliers for the conflict minerals investigations and implement a series of top-down investigations on the suppliers. We shall use the standard investigation tools defined in the Responsible Minerals Initiative (RMI) and obtain the latest lists.

Due Diligence



Corresponding Product Categories for 3TG and Cobalt and Investigation Data

Nanya provides memory products. According to due diligence in the supply chain and comparison with the list of qualified smelters of the Responsible Minerals Initiative (RMI), a total of 47 minerals suppliers, including 6 Tier-1 contractors and 7 Tier-1 raw materials suppliers as well as 34 Tier-2 and Tier-3 suppliers, have provided information on the source of 3TG and cobalt, and we identified information for 226 smelters in the supply chain investigation. Currently, all these 226 smelters are accredited smelters by the Responsible Minerals Initiative (RMI), and completely comply with the conflict-free minerals and responsible minerals policy.

Source of 3TG minerals and cobalt procurement



Nanya shall continue to implement due diligence based on the Responsible Minerals Assurance Process (RMAP) and lower risks in the supply chain.

Continue to cooperate with suppliers/contractors and implement supply chain investigations to ensure the accuracy of the information.

Audit suppliers to evaluate the supply chain's policy and practice of the execution of conflict minerals.

Consolidate forces in the supply chain and request 3TG smelters to pass the verification procedures in the Responsible Minerals Assurance Process (RMAP) to verify the source of the minerals.

Performance

Nanya has implemented conflict-free mineral supply chain investigations since 2009. Our implementation method is based on supply chain survey results, RBA-RMI management guidelines and customer's requirements. We adhere to the management spirit of continuous improvement, continuously communicate with the supply chain, and identify supply chain conditions and analysis of the investigation results, timely adjustment of the Company's non-conflict management indicators and responsible mining policy, showing positive cycle management results.





Future outlook

Collecting information on smelters will gradually become the norm due to the Responsible Minerals Initiative (RMI). Natural resources will gradually be depleted, and most resources are managed and controlled by a few countries or governments due to geography. In the mining process of natural resources, tremendous energy consumption, water resource pollution, land loss, and even illicit incidents, such as infringements of human rights, may occur. Hence, companies should fulfill their social responsibility, take environmental protection, labor rights, and basic human rights seriously, and extend management indicators to suppliers based on the spirit of lawful procurement.

In the past decade, in response to requirements from clients and various social aspects, Nanya has participated in investigations of rare-earth materials, metalloids, and volatile organic compounds (VOCs), and actively introduced backup suppliers into our qualified supply chain. Moreover, we have ensured that all suppliers in the supply chain are very cooperative in replying to our requests and gradually meeting regulatory requirements on company indicators, so as to meet clients' expectations and achieve sustainable operations.