



# 2

## A Responsible Purchaser

As the world's largest dedicated IC foundry, we have made it our mission to purchase responsibly. We have the power to make a difference and we are doing so by asking our suppliers to make advancements in the following aspects: technology, quality, delivery, environmental protection, human rights, safety, and health. Our goal is to build a green and sustainable semiconductor supply chain.

100

%

All tier 1 suppliers have signed the TSMC Supplier Code of Conduct

100

%

All minerals are conflict-free

210

Million GWh

Cumulative energy conserved by suppliers through TSMC support





# Supplier Sustainability Management

Strategies

2030 Goals

2021 Targets

2020 Achievements

✓ Achieved ↑ Exceeded — Missed Target

## Safeguard Labor Rights

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>▪ Tier 1 suppliers' completion rate for signing the TSMC Supplier Code of Conduct every three years: <b>100%</b><sup>Note1</sup></li> <li>▪ Tier 1 suppliers' completion rate of the Sustainability Management Self-Assessment Questionnaire: <b>100%</b></li> <li>▪ Critical suppliers' completion rate for receiving third-party audits (by RBA-certified auditing institutions) every three years: <b>100%</b><sup>Note2</sup></li> <li>▪ TSMC continues to monitor supplier employees working at TSMC factory sites</li> <li>▪ Supplier due diligence on sourcing <u>conflict-free minerals</u>: <b>100%</b> of the minerals used are sourced responsibly</li> <li>▪ TSMC audits a cumulative total over <b>30</b> suppliers (at least three suppliers per year) for due diligence on sourcing conflict-free minerals <b>NEW</b></li> </ul> | <ul style="list-style-type: none"> <li>▪ Tier 1 suppliers completed the Sustainability Management Self-Assessment Questionnaire at a completion rate of <b>100%</b></li> <li>▪ Continue to require critical suppliers to receive third-party audits by RBA-certified auditing institutions. The target is for <b>60</b> critical suppliers to complete third-party audits</li> <li>▪ TSMC continues to monitor supplier employees working at TSMC factory sites</li> <li>▪ Supplier due diligence on sourcing conflict-free minerals: <b>100%</b> of minerals used are conflict free</li> <li>▪ Complete audits on at least three suppliers for due diligence on sourcing conflict-free minerals <b>NEW</b></li> </ul> | <ul style="list-style-type: none"> <li>▪ All Tier 1 suppliers signed the TSMC Supplier Code of Conduct for a completion rate of <b>100%</b><br/>Target: 100% ✓</li> <li>▪ All Tier 1 suppliers completed the Sustainability Management Self-Assessment Questionnaire for a completion rate of <b>100%</b><br/>Target: 100% ✓</li> <li>▪ A total of <b>24</b> critical suppliers completed third-party supplier audits by RBA-certified institutions<br/>Target: <b>60</b> critical suppliers —<sup>Note3</sup></li> <li>▪ Monthly alert automatically generated on the attendance of supplier employees working at TSMC factory sites ✓</li> <li>▪ <b>100%</b> sourcing conflict-free minerals<br/>Target: 100% ✓</li> </ul> |
|--|--|--|



### Manage Sustainability Risk

All suppliers are required to adhere to the [TSMC Supplier Code of Conduct](#), taking actions to improve labor rights, safety and health, environmental protection, business ethics, and the efficiency of their management systems, and reduce disruption risk for business operations

Note 1: Tier 1 suppliers: Suppliers trading directly with TSMC with more than three orders per year, with order amount exceeding NT\$5 million. In 2020, 1,144 suppliers met the criteria. Since the suppliers signing every year were relatively consistent, the frequency was adjusted from every year to every three years.

Note 2: Critical suppliers: Suppliers accounting for the top 85% of purchasing expenses or of a single-source purchase, with indicators such as procurement amount, product supply criticality, and business relation with TSMC.

Note 3: Due to the COVID-19 pandemic, TSMC lowered the target number of suppliers for on-site audits in 2020 to minimize contagion risk.



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✓ Achieved ↑ Exceeded — Missed Target

Strategies

2030 Goals

2021 Targets

2020 Achievements



Manage Sustainability Risk

All suppliers are required to adhere to the TSMC Supplier Code of Conduct, taking actions to improve labor rights, safety and health, environmental protection, business ethics, and the efficiency of their management systems, and reduce disruption risk for business operations

Strengthen Supply Chain Resilience

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>Continue to diversify facilities and assess new suppliers; develop <b>145</b> multi-source supply solutions (Base year: 2018) <sup>Note4</sup></li> </ul>          | <ul style="list-style-type: none"> <li>Develop <b>105</b> multi-source supply solutions for raw materials</li> </ul>  | <ul style="list-style-type: none"> <li>Developed <b>70</b> multi-source supply solutions <br/>Target: 64 <span style="float: right;">↑</span></li> </ul>  |
| <ul style="list-style-type: none"> <li>A cumulative total of <b>300</b> local raw materials suppliers participate in the observation of TSMC annual emergency response drill (Base year: 2016)</li> </ul> | <ul style="list-style-type: none"> <li>A cumulative total of <b>130</b> suppliers participate in the observation of TSMC annual emergency response drill</li> </ul> | <ul style="list-style-type: none"> <li><b>21</b> local raw materials suppliers participated in the observation of TSMC annual emergency response drill, with a cumulative total of <b>111</b> suppliers <br/>Target: 20 suppliers this year, 110 in total <span style="float: right;">↑</span></li> </ul> |



Optimize Local Procurement

To continuously increase local sourcing, TSMC actively provides consultation on improving core capabilities, and sets reduction targets for energy consumption, water consumption, waste, and carbon emissions to support the sustainable development of the local supply chain

Improve the Sustainability of the Supply Chain

- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"> <li>A cumulative total of <b>1,500</b> local suppliers participate in the Environment, Safety, and Health (ESH) training program (Base year: 2016)</li> </ul>       | <ul style="list-style-type: none"> <li>A cumulative total of <b>680</b> suppliers participated in the ESH training program</li> </ul>   | <ul style="list-style-type: none"> <li>A cumulative total of <b>558</b> suppliers participated in the ESH training program <br/>Target: 500 in total <span style="float: right;">↑</span></li> </ul>  |
| <ul style="list-style-type: none"> <li>A cumulative total of <b>145</b> local raw materials suppliers receive consultation on process advancement and quality improvement (Base year: 2016)</li> </ul> | <ul style="list-style-type: none"> <li>Hold the annual Responsible Supply Chain Forum</li> <li>Ten local raw materials suppliers receive consultation on process advancement and quality improvement, with a cumulative total of <b>55</b> suppliers</li> </ul> | <ul style="list-style-type: none"> <li>Integrated TSMC's annual Supply Chain Management Forum into Responsible Supply Chain Forum <span style="float: right;">✓</span></li> <li><b>12</b> suppliers received consultation on process advancement and quality improvement, with a cumulative total of <b>45</b> suppliers <br/>Target: 12 suppliers this year, 45 in total <span style="float: right;">✓</span></li> </ul> |
| <ul style="list-style-type: none"> <li>Completion rate of Safety and Health consultation for critical high-risk suppliers: <b>100%</b> <sup>Note5</sup></li> </ul>                                     | <ul style="list-style-type: none"> <li>Critical high-risk suppliers complete Safety and Health consultation at a rate of <b>100%</b></li> </ul>   | <ul style="list-style-type: none"> <li>Critical high-risk suppliers completed Safety and Health consultation at a rate of <b>100%</b> <span style="float: right;">✓</span></li> </ul>   |

Note 4: TSMC raised the 2020 target from 125 to 145 as the multiple-source supply solution program achieved the 2030 Goal of 125 ahead of schedule.

Note 5: A total of 32 critical high-risk suppliers (formerly known as vendors with high-risk operations) were audited in 2019, of which 3 suppliers with safety and health audit scores below 70 received consultation in 2020 and passed improvement requirements after evaluation.



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▼ Achieved ↑ Exceeded — Missed Target

Strategies

2030 Goals

2021 Targets

2020 Achievements

Reduce Environmental Impact



Optimize Local Procurement

To continuously increase local sourcing, TSMC actively provides consultation on improving core capabilities, and sets reduction targets for energy consumption, water consumption, waste, and carbon emissions to support the sustainable development of the local supply chain

2030 Goals	2021 Targets	2020 Achievements
<ul style="list-style-type: none"> <li>Increase Local Sourcing<sup>Note 6</sup> <ul style="list-style-type: none"> <li>-64% local sourcing for indirect raw materials</li> <li>-60% local sourcing for spare parts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-60.5% local sourcing for indirect raw materials</li> <li>-50% local sourcing for spare parts</li> </ul>	<ul style="list-style-type: none"> <li>60% local sourcing for indirect raw materials Target: 60%</li> <li>44.8% local sourcing for spare parts Target: 50%</li> <li>31% local sourcing for backend equipment Target: 36%</li> </ul>
<ul style="list-style-type: none"> <li>Provide consultation on power reduction for suppliers and reduce electricity consumption by a cumulative total of 1.5 billion kWh (Base year: 2018)</li> <li>Reduce waste production among major local suppliers by 35% (Base year: 2014)<sup>Note 8</sup></li> </ul>	<ul style="list-style-type: none"> <li>Reduce supplier electricity consumption by a cumulative total of 320 million kWh</li> <li>Reduce waste production among major local suppliers by 30.4%</li> </ul>	<ul style="list-style-type: none"> <li>Reduce supplier electricity consumption by a cumulative total of 210 million kWh Target: 200 million kWh</li> <li>Waste production among major local suppliers reduced by 29.4% Target: 29.1%</li> </ul>
<ul style="list-style-type: none"> <li>High electricity consumption suppliers receive ISO 14064-1 Greenhouse Gas Emission verification at a completion rate of 100%<sup>Note 7</sup> <b>NEW</b></li> <li>Provide consultation on water reduction for suppliers and reduce water consumption by a cumulative total of 35 million tons (Base year: 2020) <b>NEW</b></li> </ul>	<ul style="list-style-type: none"> <li>High energy consumption suppliers receive ISO 14064-1 Greenhouse Gas Emission verification at a completion rate of 50%</li> <li>Reduce supplier water consumption by a cumulative total of 4.5 million tons</li> </ul>	

Note 6: Referring to TSMC's main operation region of Taiwan.

Note 7: Definition for high electricity consumption suppliers: Energy consumption at a single site exceeding 5 million kWh per year.

Note 8: Referring to raw materials suppliers in the top 80% of local waste production. Calculation formula: A/(A+B)(%); A: waste reduced by the factory in the underlying month (tons); B: total waste produced by the factory in the underlying month (tons).

Note 9: For spare parts, the annual local sourcing target was missed because the proportion of advanced packaging increased and quality requirements have become stricter, and because TSMC had to increase inventory levels due to COVID-19.

Note 10: For backend equipment, since the proportion of advanced packaging has increased and both quality requirements and technical specifications have become stricter, TSMC has also increased the procurement volume of domestic and foreign suppliers, and the demand for foreign suppliers is still strong; requirements; therefore, TSMC removed the target beginning in 2021.



As a global semiconductor industry leader, TSMC aims to lead the improvement of the supply chain and is committed to an environmentally and socially responsible business model. TSMC focuses on two policies, Sustainability Risk Management and Local Procurement Optimization, as the core of our sustainable supply chain development, driving the supply chain towards a safe work environment, dignity of labor, ethical business conduct, and environmental protection. In 2020, TSMC worked closely with supplier partners through four guiding principles: Code Compliance, Risk Assessment, Audit Participation, and Continuous Improvement, TSMC encourages supplier partners to continue improving, commit to essential values, and take the initiative to promote sustainable practices to their upstream suppliers.

## Implementing the Four Guiding Principles of Responsible Supply Chain Management

To foster growth for supplier partners worldwide, TSMC continues to expand the scope of our supply chain management. TSMC upgraded the supply chain business portal, Supply Online, to a global responsible supply chain management platform, Supply Online 360, which integrates supplier communication and increases information accuracy and immediacy. The platform went online on December 22, 2020. On the practical level, the platform is built upon the structure of the four

guiding principles and based on the TSMC Supplier Code of Conduct. Through its new feature, the Sustainability Management Module, the Supply Online 360 platform enables digital follow-up for signature compliance with the Code of Conduct, completion of the Sustainability

Management Self-Assessment Questionnaire, and progress in audit improvement. Using online data, these new features can improve the efficiency of efforts in the physical world. At the same time, TSMC established the TSMC Supplier Sustainability Academy

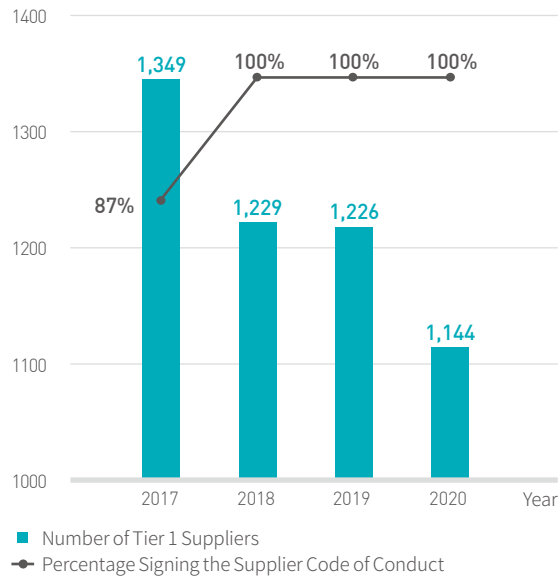
and the Supply Chain Worker Grievance Channel on the Supply Online 360 platform, taking tangible actions to build a responsible supply chain and working closely with suppliers to ensure the sustainability of the semiconductor supply chain.

	Code Compliance	Risk Assessment	Audit Participation	Continuous Improvement
Rules of Implementation	Suppliers comply with the TSMC Supplier Code of Conduct and extend the scope of management to their upstream suppliers.	Suppliers evaluate their compliance via Sustainability Self-Assessment Questionnaire (SAQ) or are evaluated by the TSMC Team.	Critical suppliers receive third-party audits by RBA-certified institutions or on-site audits by the TSMC S.H.A.R.P. Team.	Suppliers implement improvement measures according to the audit results and receive relevant consultation.
Management Measures	<ul style="list-style-type: none"> <li>Tier 1 suppliers are required to sign the Supplier Code of Conduct.</li> <li>Critical Suppliers are required to ask their upstream suppliers, contractors, and service providers to commit and adhere to the TSMC Supplier Code of Conduct.</li> <li>Added Supplier Sustainability Standards. <b>NEW</b></li> </ul>	<ul style="list-style-type: none"> <li>Determining the level of Code compliance of Tier 1 suppliers via Sustainability Self-Assessment Questionnaire to assess risks.</li> <li>The TSMC Supplier Healthiness Assessment Rectification Program (S.H.A.R.P.) team identifies risks with indicators such as procurement amount, product supply criticality, and business relation with TSMC. <b>NEW</b></li> <li>Monitor suppliers with serious violations, tracking their continuous improvement to reduce risks.</li> <li>Suppliers are required to assess and mitigate climate change risks.</li> </ul>	<ul style="list-style-type: none"> <li>Critical suppliers are required to receive third-party audits; TSMC monitors audit results and requires improvement.</li> <li>Establish Supply Chain Sustainability Program, which conducts on-site audits with the S.H.A.R.P. methodology.</li> </ul>	<ul style="list-style-type: none"> <li>TSMC provides consultation or assistance and arranges for follow-up inspections for improvement.</li> <li>TSMC may reduce the trade volume or terminate trade with suppliers that fail to meet the requirements.</li> <li>Provide business operations and sustainability training programs free of charge, and require suppliers to complete the programs. <b>NEW</b></li> </ul>
Supply Online 360	<ul style="list-style-type: none"> <li>Integrate TSMC supplier standards and requirements, and publish them on the online platform <b>NEW</b></li> </ul>	<ul style="list-style-type: none"> <li>Establish a digital management tool for supplier sustainability indicators, the Sustainability Management Module included Self-Assessment Questionnaire function <b>NEW</b></li> </ul>	<ul style="list-style-type: none"> <li>Set up an auditing function for the Sustainability Management Module <b>NEW</b></li> </ul>	<ul style="list-style-type: none"> <li>Establish TSMC Supplier Sustainability Academy <b>NEW</b></li> <li>Establish Supply Chain Worker Grievance Channel <b>NEW</b></li> </ul>

## Code Compliance

As a member of the Responsible Business Alliance, RBA, TSMC sets its Supplier Code of Conduct according to RBA's Code of Conduct. It requires suppliers to comply with the Code of Conduct while encouraging them to ask their upstream suppliers, contractors, and service providers to approve and adopt the same code in practices and management. New suppliers must sign the TSMC Supplier Code of Conduct to be eligible for partnership. The new suppliers must undergo regular risk assessments and audits in future partnerships and continue to improve according to audit results.

### Signing of the Supplier Code of Conduct

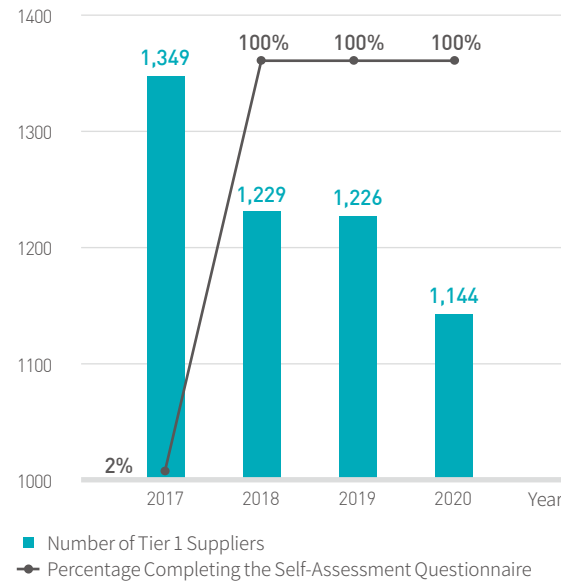


In 2020, TSMC further established the TSMC Supplier Sustainability Standard, which specifies five major categories for implementation, focuses on sustainable conduct, and helps suppliers to take tangible actions for sustainability.

## Risk Assessment and Audit Participation

To deepen its understanding of the supply chain's development and identify potential risks, TSMC adopted a three-phase risk assessment process in 2020. By classifying, categorizing, and identifying areas for

### Self-Assessment Questionnaire Results

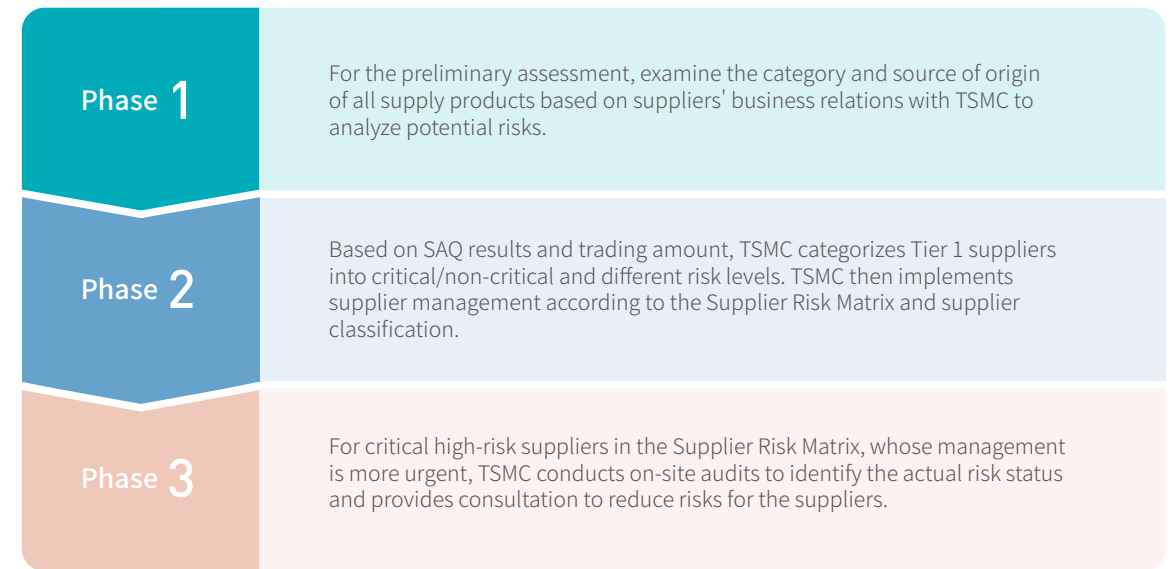


improvement for suppliers, TSMC provides training resources on the Supply Online 360 platform and conducts on-site audits and consultations for critical high-risk suppliers, ensuring effective risk control.

After the preliminary assessment for all suppliers, TSMC requires Tier 1 Suppliers to conduct the SAQ to identify sustainability risks. In 2020, Tier 1 Suppliers in Taiwan, where TSMC is headquartered, completed 1,144 SAQs, in which the five major categories of the TSMC Supplier Code of Conduct were covered. The assessment results show that, for the Labor category, suppliers often have

no specified protocols to monitor the work environment of their supply chain. For Safety and Health, suppliers lack identification and risk planning for environmental protection laws, operations in confined space, and operations involving hazardous materials. For the Code of Business Ethics, SAQ results show that 21% of the suppliers do not have a business ethics management system. In addition, TSMC requires critical suppliers to follow up the sustainability management of their upstream supply chains. Through Supply Online 360, it's expected to conduct integrated management from Tier 1 suppliers in 2021.

### Three-phase Risk Assessment



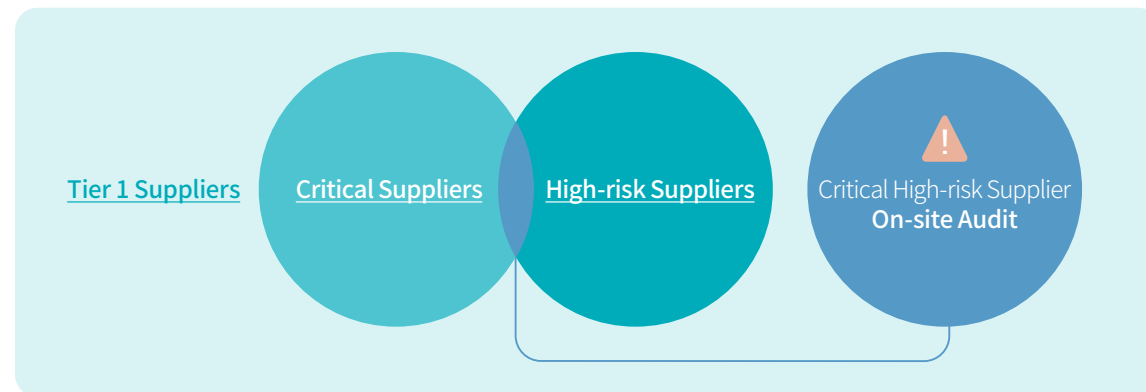
At the same time, TSMC categorizes critical suppliers according to indicators such as procurement amount, supplier product criticality, and business relation with TSMC and determines risk levels referring to SAQ results and priority violation records. Using the two dimensions of criticality and risk levels, TSMC establishes a Supplier Risk Matrix that classifies suppliers annually. This classification is then used in determining specific sustainability management actions to continuously enhance supplier understanding of the five major categories defined by the RBA. TSMC aims to improve supplier capabilities and effectively track sustainability risks in the supply chain.

After identifying risks using the Supplier Risk Matrix, TSMC implements management measures according to

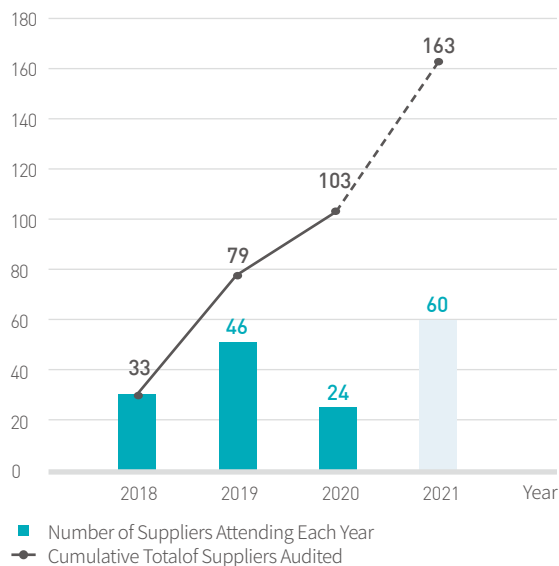
supplier classifications. In 2020, the TSMC S.H.A.R.P. Team collaborated with third-party institutions certified by the RBA and completed 24 on-site audits for critical high-risk suppliers, assessed actual risks, and improve supplier performance on sustainability.

TSMC aims to work closely with suppliers in maintaining consistent material supply and services, and ensure mutual benefit by guiding suppliers to establish a safe work environment that safeguards workers' health and limits environmental impact. TSMC launched the TSMC Supplier Sustainability Academy education platform on Supply Online 360, and by compiling training courses from TSMC operational and manufacturing practices, TSMC provides

### Critical High-risk Suppliers Assessment Process



### Number of Suppliers Completing Third-party Audits



### Supplier Risk Matrix, Classification and Management Measures

	Critical	Non-critical		Critical High-risk Suppliers	Critical Low-risk Suppliers	Non-critical High-risk Supplier	Non-critical Low-risk Suppliers
High risk	<b>Critical High-risk Suppliers</b> Risk Level: High	<b>Non-critical High-risk Supplier</b> Risk Level: Medium	Signing the TSMC Supplier Code of Conduct	✓	✓	✓	✓
			Risk Assessment via SAQ	✓	✓	✓	✓
Low risk	<b>Critical Low-risk Suppliers</b> Risk Level: Medium	<b>Non-critical Low-risk Suppliers</b> Risk Level: Low	Completion of the TSMC Supplier Code of Conduct Program of the Supplier Sustainability Academy	✓	✓	✓	
			On-site Audit	✓			



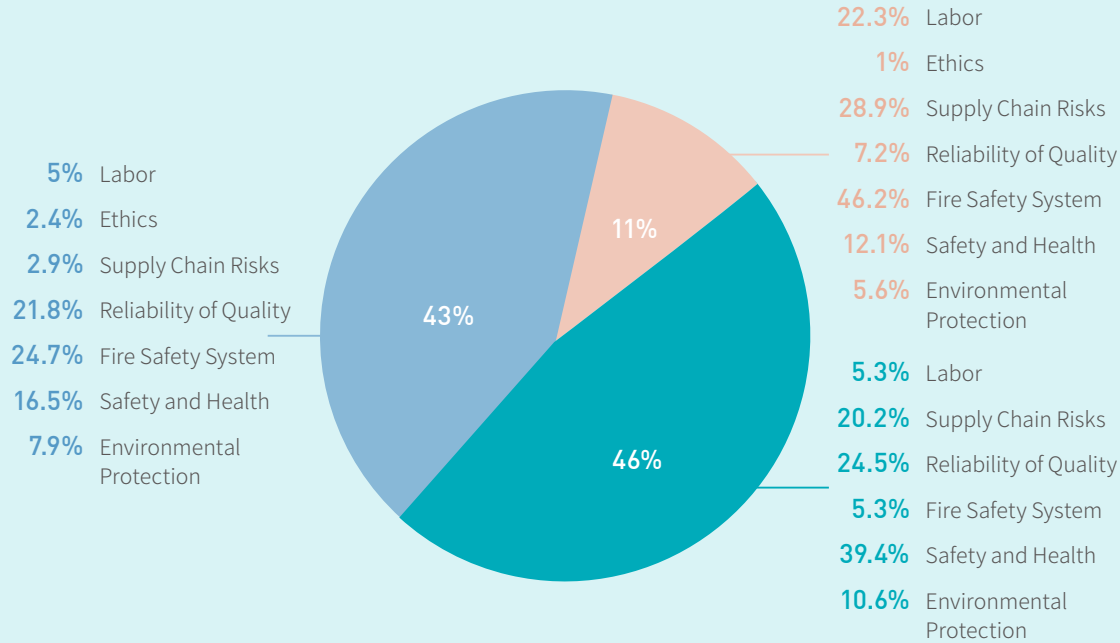
## 2020 Critical High-risk Suppliers Audits

**Auditor** TSMC S.H.A.R.P. Team and RBA-certified Third Party Institutions

**Suppliers Audited** Factories of 24 Critical High-risk Suppliers

**Audit Methods Report** 24 On-site Audits

### Distribution of Audit Violations



Categories	Major Violations Audited	Key Achievements
Labor	<ul style="list-style-type: none"> <li>Not fully adhering to work hour regulations</li> </ul>	<ul style="list-style-type: none"> <li>Require suppliers to comply with labor work hour regulations fully</li> </ul>
Ethics	<ul style="list-style-type: none"> <li>Lacking policy or procedures for gifts, such as the amount/frequency limit between supplier and clients, or employee education on reporting conflict of interests</li> </ul>	<ul style="list-style-type: none"> <li>Require suppliers to establish business ethics rules; expected to complete in 2021</li> </ul>
Supply Chain Risks	<ol style="list-style-type: none"> <li>Not establishing multiple sources or safety stock for raw materials or finished goods</li> <li>Lacking comprehensive water and electricity backup plans in response to climate change</li> <li>Lacking comprehensive human resources plans in response to unexpected developments (e.g., COVID-19)</li> </ol>	<ol style="list-style-type: none"> <li>Establish and verify multiple sources for raw materials and finished goods, and have safety stock in place</li> <li>Establish water and electricity backup plans and compile the plans in advance when building new production lines</li> <li>Establish comprehensive business continuity plans in response to COVID-19</li> </ol>
Reliability of Quality	<ol style="list-style-type: none"> <li>Lacking control over the quality of raw materials</li> <li>Not implementing upstream supply chain risk assessment or business continuity plan; not conducting regular on-site and document audits for upstream suppliers</li> <li>Not planning or notifying TSMC in time when making changes to the production process</li> </ol>	<ol style="list-style-type: none"> <li>Control and manage the quality of raw materials to ensure that materials comply with specifications and quality is consistent</li> <li>Assess risks of the upstream supply chain, conduct on-site audits, and encourage compliance with TSMC standards</li> <li>Enhance internal training on protocols relevant to production process changes</li> </ol>
Fire Safety System	<ol style="list-style-type: none"> <li>Not establishing an effective fire safety management system</li> <li>Fire safety equipment not compliant with relevant regulations</li> <li>Fire safety equipment lacking maintenance</li> </ol>	<ol style="list-style-type: none"> <li>1.1. Required suppliers to assign personnel specifically for fire safety management</li> <li>1.2. Required suppliers to fully implement management of hot work, flammable chemicals, and fire safety equipment, and provide TSMC's relevant procedures for suppliers' reference</li> <li>2. Required suppliers to improve fire safety equipment, comply with regulations and provide relevant consultation</li> <li>3. Shared checklist of fire equipment maintenance to suppliers and held fire protection operation training</li> </ol>
Safety and Health	<ul style="list-style-type: none"> <li>Lacking comprehensive personal protective equipment and emergency response management</li> </ul>	<ul style="list-style-type: none"> <li>Require suppliers to establish a comprehensive management procedure, share TSMC practices and procedures</li> </ul>
Environmental Protection	<ul style="list-style-type: none"> <li>Not establishing an effective rainwater management system</li> </ul>	<ul style="list-style-type: none"> <li>Establish management measures for separating rainwater and wastewater</li> </ul>

Note1: Priority violations may present risks of production halt, loss of life, legal violations, or systematic failure. For example: lacking response mechanism for unexpected disruptions in production lines, environmental pollution, hiring child labor, or forced labor.

Note 2: Major violations refer to significant differences between implementation and proper ESH procedures, such as daily operations not adhering to ESH procedures.

Note 3: Minor violations refer to risks other than priority or major violations, such as incomplete training records or incomplete ESH procedures.



## Continue to Advance Supply Chain Sustainability

learning resources on labor rights, environmental protection, workplace safety and health free of charge. Such knowledge on corporate management improves supplier capabilities and even extends to upstream suppliers, enhancing the sustainability of the overall supply chain.

TSMC values people above all else, and has further established a public reporting channel for supplier employees on SupplyOnline 360. This offers protection for supplier employees, extends and deepens TSMC's management, and builds a more inclusive workplace for the supply chain.

As the global semiconductor industry continues to grow, TSMC considers effective supply chain management to be an important mission. TSMC cares about the sustainability of the environment, society, and the economy, aspiring to improve supply chain management, and effect behavioral change. TSMC makes use of two policies to do so: 1: "Sustainability Risk Management", which requires all suppliers to adhere to the [TSMC Supplier Code of Conduct](#), take actions to improve labor rights, safety and health, environmental protection, business ethics, and the efficiency of

their management systems, and reduce disruption risk for business operations. 2: "Local Procurement Optimization" to continuously increase local sourcing, actively provide consultation on improving core capabilities, and set reduction targets for energy consumption, water consumption, waste, and carbon emissions to support the sustainable development of the local supply chain. As a leading semiconductor company, TSMC aims to use its influence in the industry with these two policies as well as the four Action Plans to promote progress towards sustainability.

"Thanks to the auditing and coaching from TSMC's team of experts, TPPC's concept of disaster prevention has been extended to risk management, system maintenance, and loss prevention designs that enabled our disaster prevention standards to reach the international level for semiconductor fabs in a short period of time and strengthened the company's overall disaster prevention capability and the safety awareness of employees."

— Chih Hung Feng, Assistant Vice President of Xinying Plant, TAIWAN PULP & PAPER CORPORATION

### Reporting Procedure





### Four Action Plans





## Sustainability Risk Management

TSMC implements two of the action plans, Safeguard Labor Rights and Strengthen Supply Chain Resilience, through audits and consultations that urge suppliers to continuously improve, building a work environment that ensures the dignity of workers and business ethics. In 2020, TSMC initiated the S.H.A.R.P. program, in which TSMC and suppliers work closely and effectively. Such comprehensive, collaborative efforts continue to reduce supply chain risks.

Action Plans	Supplier Problems and Challenges	TSMC Consultation Measures	Number of Suppliers	2020 Performance
 <p><b>Safeguard Labor Rights</b></p>	Insufficient transparency of supplier compliance with the TSMC Supplier Code of Conduct	<ul style="list-style-type: none"> <li>Require Tier 1 suppliers to sign the TSMC Supplier Code of Conduct</li> <li>Require suppliers to complete third-party audits by RBA-certified auditing institutions</li> <li>Set up Supply Chain Worker Grievance Channel on Supply Online 360</li> </ul>	<p>1,144</p> <p>24</p>	<ul style="list-style-type: none"> <li>Tier 1 suppliers signed the statement at the completion rate of <b>100%</b>.</li> <li><b>24</b> Critical high-risk suppliers completed audits by third-party RBA-certified institutions.</li> <li>No complaints reported during the underlying year.</li> </ul>
	Records of supplier employees working at TSMC sites for seven consecutive days <sup>Note1</sup>	<ul style="list-style-type: none"> <li>Quarterly review on whether supplier employees work at TSMC sites for seven consecutive days</li> </ul>		<ul style="list-style-type: none"> <li>Upgrade management tools, enabling automatic monthly reports that alert changes in supply and ask suppliers to improve.</li> </ul>
 <p><b>Strengthen Supply Chain Resilience</b></p>	Whether suppliers comply with regulations on sourcing responsible minerals and raw materials	<ul style="list-style-type: none"> <li>Continue due diligence to ensure sourcing of <b>100%</b> conflict-free minerals</li> </ul>	36	<ul style="list-style-type: none"> <li>Completed <b>100%</b> of due diligence on conflict-free minerals sourcing for the supply chain.</li> </ul>
	Insufficient workplace safety rules for contractors and subcontractors at TSMC factory sites	<ul style="list-style-type: none"> <li>Strengthen workplace safety management for contractors, especially on-site operational subcontractors and downstream subcontractors, and specify penalties and fines for workplace safety violations</li> <li>Strengthen workplace safety management for contractors, including workplace safety management in the comprehensive supplier evaluation</li> </ul>	<p>1</p> <p>2</p>	<ul style="list-style-type: none"> <li>Include violation penalty terms in orders. Suppliers taking the orders implicitly agree to violation penalties. In 2020, <b>1</b> supplier received a penalty for violations.<sup>Note2</sup></li> <li>United Integrated Services and Taiwan Puritic Corp received TSMC Outstanding Supplier Awards.</li> </ul>
	The current supply chain lacks emergency response capabilities, which may lead to disruption risk in supply	<ul style="list-style-type: none"> <li>Continue to develop multi-source supply solutions</li> <li>Invite suppliers to observe TSMC annual emergency response drills</li> <li>Initiate the S.H.A.R.P. program</li> </ul>	<p>21</p> <p>24</p>	<ul style="list-style-type: none"> <li>Develop <b>70</b> multi-source supply solutions.</li> <li><b>21</b> suppliers participated this year, with a cumulative total of 111 suppliers.</li> <li>Completed <b>24</b> S.H.A.R.P. audits.</li> </ul>

Note 1: In 2020, supplier employees at TSMC factory sites occasionally still worked for seven consecutive days. TSMC has emphasized the importance of work hour management to suppliers.

Note 2: Added violation penalties to the order form in 2018, and the practice continued in 2020.

### Sourcing Responsible Minerals

TSMC supports sourcing conflict-free raw materials as a practice of humanitarianism and compliance with social ethics. Therefore, TSMC has adopted a series of compliance measures based on industry best practices, including the due diligence framework by the Organization for Economic Cooperation and Development (OECD), the Model Supply Chain Policy for a Responsible Global Supply Chain of Minerals from Conflict-affected and High-risk Areas. TSMC is also a firm supporter of the Responsible Business Alliance

(RBA) and Global e-Sustainability Initiative (GeSI), requiring suppliers to source conflict-free raw materials according to the Responsible Minerals Assurance Process (RMAP). TSMC requires suppliers to comply with our responsible minerals sourcing policy and sign a statement of conflict-free minerals for products containing tantalum, tin, gold, and tungsten. Since 2018, TSMC has also disclosed to customers the source smelters for cobalt used in TSMC products. By 2021, TSMC plans to audit at least three suppliers that use tantalum, tin, gold, and tungsten to strengthen disclosure from suppliers.

For the latest TSMC disclosure documents, please visit the [TSMC website](#) or the website of the [US Securities and Exchange Commission](#).

### Supplier Healthiness Assessment Rectification Program (S.H.A.R.P.)

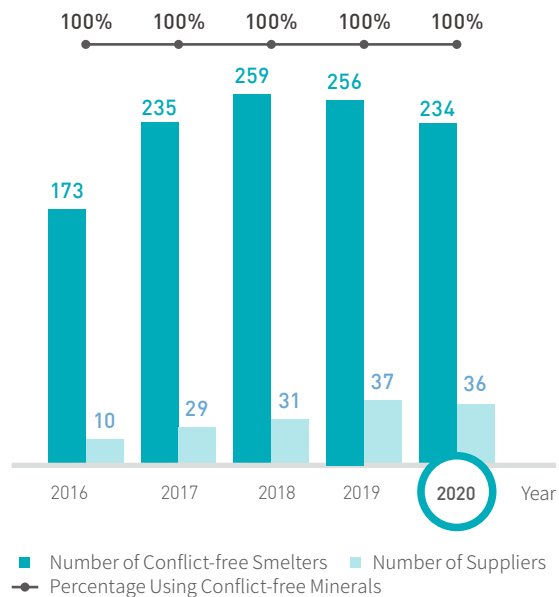
To enhance supply chain resilience and ensure business continuity, TSMC started the Supply Chain Sustainability Program in 2020, assembling an auditing team with in-house experts and third-party RBA-

certified institutions, named the Supplier Healthiness Assessment Rectification Program (S.H.A.R.P.). The program audits five major categories, including Supply Chain Risk, Quality and Reliability, Environmental Protection, Safety and Health, Fire Safety System, and Labor Ethics. Through on-site audits, face-to-face communication, and other methods, TSMC continues to develop benchmark behaviors in the five major categories and improve the supply chain.

### Conflict-free Minerals Management Process



### Conflict-free Minerals Due Diligence



Note: Data stated herein include Tier 1 Suppliers of TSMC facilities in Taiwan, WaferTech, TSMC (China), TSMC (Nanjing), and VisEra.

### S.H.A.R.P.

<b>Supply Chain Risks</b> <span style="background-color: #008080; color: white; padding: 2px;">NEW</span>	<ul style="list-style-type: none"> <li>Simulate multiple-incident scenarios and solutions to minimize damage in advance</li> </ul>	●
<b>Quality and Reliability</b>	<ul style="list-style-type: none"> <li>Rigorous requirements on Quality and Reliability to avoid deviations</li> </ul>	●
<b>Fire Protection System</b> <span style="background-color: #008080; color: white; padding: 2px;">NEW</span>	<ul style="list-style-type: none"> <li>Establish a comprehensive Fire Protection System to minimize the risks of damaging production lines and neighboring communities</li> </ul>	●
<b>Environmental Protection Safety and Health</b>	<ul style="list-style-type: none"> <li>Implement Occupational Safety and Health to protect operating personnel</li> <li>Require the supply chain to reduce energy consumption and carbon emission</li> </ul>	● ○
<b>Labor Ethics</b>	<ul style="list-style-type: none"> <li>Require the supply chain to safeguard labor rights and ethics rules to create a positive work environment that retains talent</li> </ul>	○

● TSMC S.H.A.R.P. Team ○ External Third-Party Institutions

## Optimize Local Procurement

Two of the action plans, "Improve the Sustainability of the Supply Chain" and "Continue to Reduce Environmental Impact", are tangible actions TSMC has taken to optimize local procurement. TSMC offers consultation for suppliers to expand production capacity, advance production processes, and improve quality. At the same time, TSMC requires suppliers to guarantee environmental safety and health in the workplace, reduce environmental impact and its external cost, and mitigate the effects of climate change and resource depletion. TSMC conducts Supplier Environmental Profit and Loss (EP&L) assessments to quantify environmental impact, guiding suppliers to set up targets of environmental protection to improve the local supply chain.

Action Plans	Supplier Problems and Challenges	TSMC Consultation Measures	Number of Suppliers	2020 Performance
<p>Improve the Sustainability of the Supply Chain</p>	Production capacity, production process, and quality management require improvement	<ul style="list-style-type: none"> <li>Provide consultation for suppliers to expand production capacity, improve advanced measurement technology, and enhance manufacturing quality</li> </ul>	32	<ul style="list-style-type: none"> <li>Completed 89 items of quality improvement in materials for advanced processes; 32 suppliers completed capacity expansion according to the mass production needs for 5 nm and 3 nm processes</li> </ul>
	Insufficient implementation of Environmental Protection, Safety and Health	<ul style="list-style-type: none"> <li>Hold the annual Responsible Supply Chain Forum</li> </ul>	101	<ul style="list-style-type: none"> <li>TSMC ESG Committee Chairperson and Senior Vice President, Lora Ho, shared TSMC's commitment to sustainability, while 92% of the suppliers attended expressed interest in sustainable development strategies and 89% expressed interest in risk control</li> </ul>
		<ul style="list-style-type: none"> <li>Hold forums to share experiences of real practices on Environment, Safety and Health</li> </ul>	147	<ul style="list-style-type: none"> <li>Explain TSMC Supplier Sustainability Standard, require suppliers to establish management systems for Environment, Safety and Health and fire protection, and urge senior management of the suppliers to enhance supervision.</li> </ul>
<p>Continue to Reduce Environmental Impact</p>	Address environmental impact and resource depletion caused by localized manufacturing	<ul style="list-style-type: none"> <li>Fortify management of supplier Environmental Safety and Health, and include the performance as one of the indicators in the comprehensive supplier evaluation</li> </ul>	1	<ul style="list-style-type: none"> <li>Present Excellent Supplier Award to Chang Chun Petrochemical Company, setting an example for other suppliers</li> </ul>
		<ul style="list-style-type: none"> <li>Promote local sourcing to reduce transportation cost, set sourcing targets for indirect raw materials, spare parts, and backend equipment</li> </ul>	17	<ul style="list-style-type: none"> <li>60% for indirect raw materials, 44.8% for spare parts, 34% for backend equipment</li> </ul>
		<ul style="list-style-type: none"> <li>Require local suppliers with high power consumption to reduce electricity usage</li> </ul>	10	<ul style="list-style-type: none"> <li>Provide consultation on power reduction for suppliers and reduce energy consumption by a total of 210 million kWh</li> </ul>
		<ul style="list-style-type: none"> <li>Require top ten waste-producing suppliers to reduce waste and report on the progress made each year</li> </ul>	10	<ul style="list-style-type: none"> <li>Reduce waste production of supplier business units by 29.4%</li> </ul>
		<ul style="list-style-type: none"> <li>Conduct annual Supplier Environmental Profit and Loss (EP&amp;L) assessment</li> </ul>	30	<ul style="list-style-type: none"> <li>Encourage raw materials suppliers to participate in the assessment; expected to complete in 2021</li> </ul>

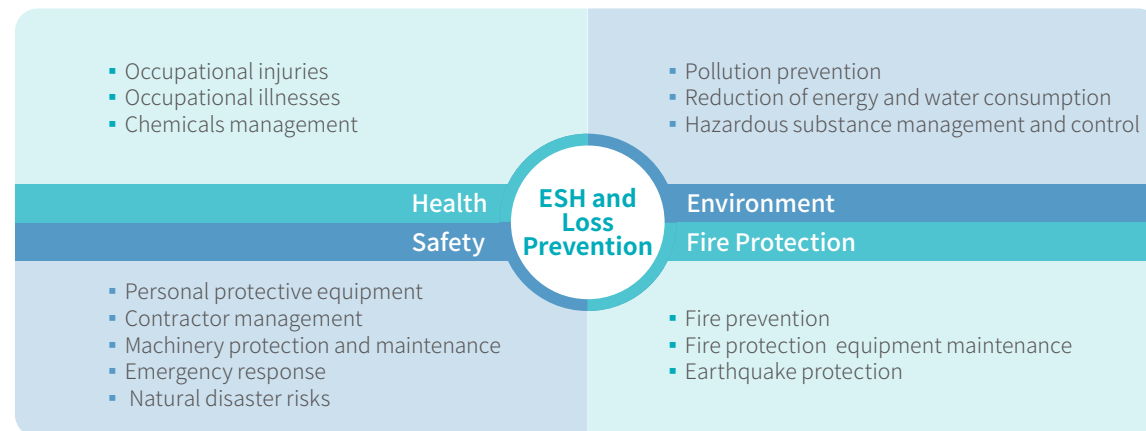
## Enhance Supply Chain Environment, Safety and Health and Loss Prevention Capabilities

To enhance environment, safety and health and loss prevention capabilities, TSMC divides its supply chain environment, safety and health training into two aspects: experience-sharing and on-site audits. In 2020, for experience sharing, TSMC illustrated the content and implementation guidelines for the Supplier Sustainability Standard and shared case studies on common violations in sustainability audits, such as failure to wear personal protective equipment properly, deficiency of the management procedures of fire protection system impairment/ hot work operation, and failure to turn on the valves of fire protection systems. TSMC recommended measures for improvement and shared tangible, actionable solutions to reduce energy

and water consumption in the experience sharing forum. The forum elevated the soft power of suppliers, and a total of 347 people from 147 suppliers attended. For on-site audits and consultation, in 2020 the TSMC S.H.A.R.P. team visited supplier companies to examine production lines, evaluate supplier fire protection software and hardware, and offered suggestions for improvement.

In 2020, TSMC continued to strengthen experience sharing by inviting suppliers to the Facility services Academy at Fab 15, offering effective training by detailing the operation, maintenance, and testing procedures of fire protection equipment on-site. In 2020, TSMC held observations of emergency response drills in factories for local raw materials suppliers for the fifth consecutive year. A total of 21 suppliers observed the drills on-site, with a cumulative total of 111 people attending.

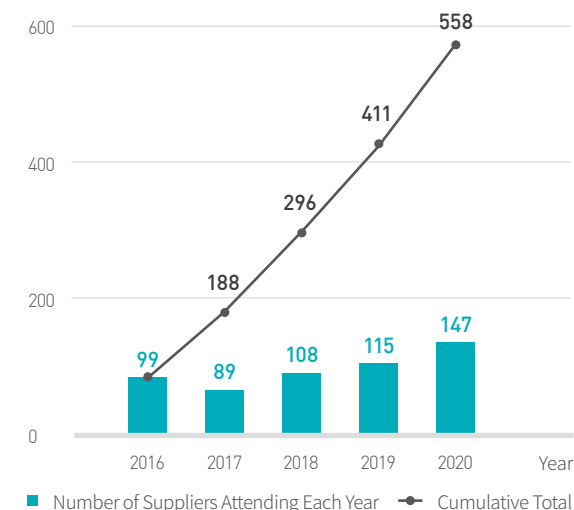
## Key Points in Supply Chain ESH and Loss Prevention



## Key Points in Promoting Supply Chain ESH and Loss Prevention



## ESH Experience-Sharing Training Program-Number of Suppliers Attended





### Improve the Local Supply Chain

TSMC's production is primarily located in Taiwan. Our procurement can be divided into six categories: equipment, spare parts, raw materials, facility services, IT, and goods. To build a more effective and competitive supply chain, TSMC actively seeks to elevate local suppliers' advanced manufacturing process capabilities and establish a comprehensive local semiconductor supply chain.

Besides promoting local sourcing in Taiwan, TSMC has also set up independent procurement organizations for TSMC subsidiaries, including TSMC (China), TSMC (Nanjing), and WaferTech. Such organizations are the extension of the TSMC global supply chain, which helps local suppliers to improve technological levels, quality consistency, and reduce costs as well as carbon emissions.

### 2020 Supply Chain Management Activities for Taiwan Facilities



**Set Procurement Targets**

Increase or maintain local sourcing percentage to meet the long-term goals



**Improve Technology Levels**

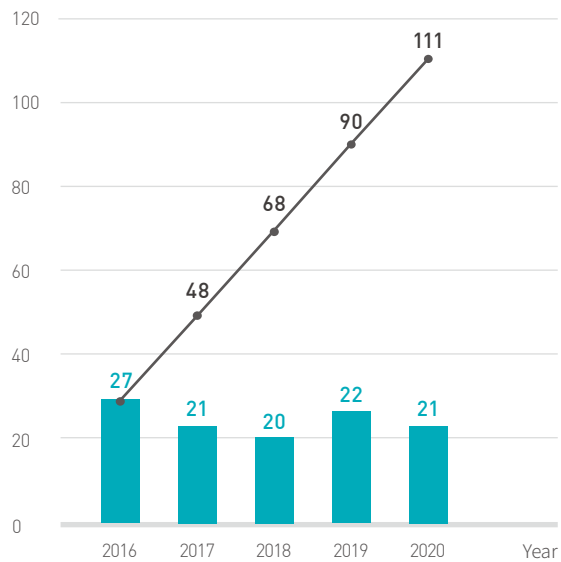
Proactively improve the technology levels and quality of critical equipment, spare parts, and raw materials suppliers to increase local sourcing



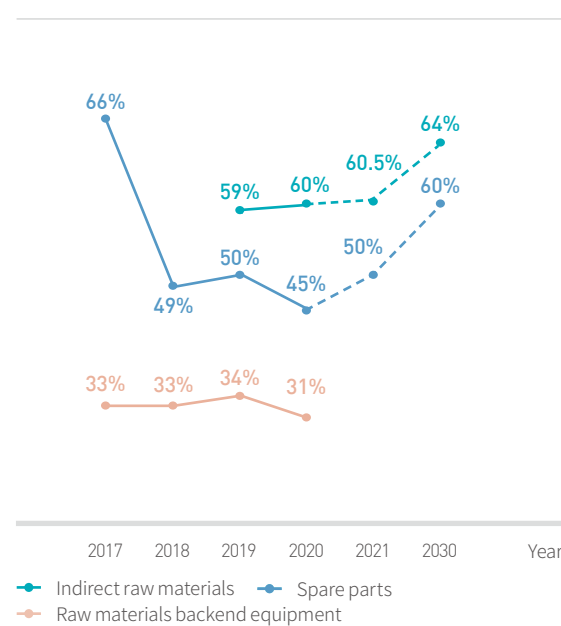
**Invite International Companies Set Up Factories In Taiwan**

Invite foreign suppliers to set up manufacturing, R&D, and training sites in Taiwan

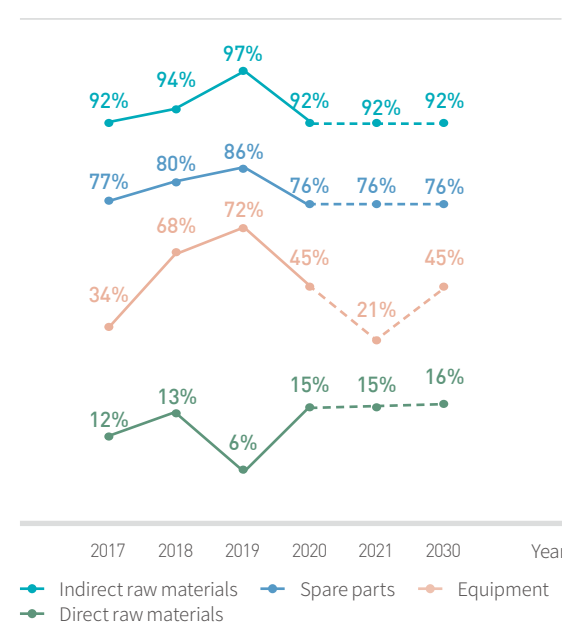
### Number of Suppliers Attending Observation of Emergency Response Drills



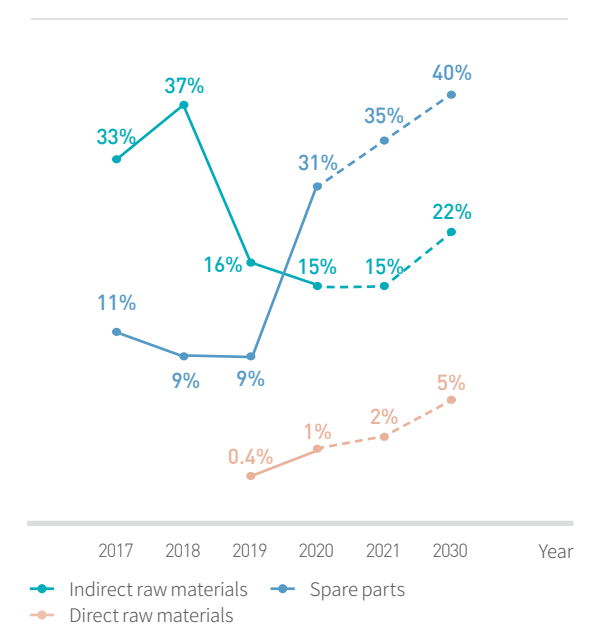
### Percentage of Local Sourcing in Taiwan



### Percentage of Local Sourcing in the US



### Percentage of Local Sourcing in China



## Consultation Achievements for Enhancing Advanced Process Capabilities of Local Suppliers

	Consultation Targets	Supplier Problems and Challenges	TSMC Consultation Measures	2020 Achievements
<p>Development of Spare Parts for Advanced Processes</p>	<ul style="list-style-type: none"> <li> 2 Spare parts maintenance</li> <li> 2 Spare parts coating</li> <li> 4 Spare parts machining</li> </ul>	<ul style="list-style-type: none"> <li>▪ The percentage of imported high-level spare parts for several advanced processes is still too high, as local suppliers lack critical process technology</li> <li>▪ Some advanced tools must be sent overseas for repair and maintenance, which is time-consuming and affects production schedules</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assemble a team of experts to provide consultation for local suppliers, offer technological training, and assist in certification</li> <li>▪ Regular exchange with suppliers on industry developments and cutting-edge technologies to ensure supplier R&amp;D directions are consistent with industry demands</li> </ul>	<ul style="list-style-type: none"> <li>✓ Provide consultation to develop <b>110</b> spare parts for advanced processes</li> </ul>
<p>Build Capacity</p>	<ul style="list-style-type: none"> <li> 4 Chemicals</li> <li> 1 Abrasives</li> <li> 2 Photoresists</li> <li> 2 Gases</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capacity insufficient to meet advanced process requirements</li> </ul>	<ul style="list-style-type: none"> <li>▪ Production line expansion</li> </ul>	<ul style="list-style-type: none"> <li>✓ Capacity increase</li> <li>✓ Establish the Best-Known Method (BKM) for improving deficient quality</li> </ul>
<p>Improve Advanced Measurement Technology</p>	<ul style="list-style-type: none"> <li> 5 Chemicals</li> <li> 1 Abrasives</li> <li> 1 Photoresists</li> <li> 4 Gases</li> </ul>	<ul style="list-style-type: none"> <li>▪ Measurement technology insufficient to meet advanced process requirements</li> </ul>	<ul style="list-style-type: none"> <li>▪ Add analytical instruments</li> <li>▪ Introduce advanced instruments</li> </ul>	<ul style="list-style-type: none"> <li>✓ Zero rejects</li> <li>✓ Increase detection threshold</li> <li>✓ Capability for IC material analysis</li> </ul>

### Continue to Reduce Environmental Impact

Drawing on experience, TSMC requires and assists suppliers to continuously improve performance on sustainability. In 2020, suppliers reduced energy consumption by 210 million kWh. In 2021, TSMC will increase its efforts, requiring suppliers to set power reduction targets in each factory's annual

environmental protection targets to push towards the sustainability goal of reducing a cumulative total of 320 million kWh. For local suppliers that produce the most waste, in 2020, waste production per unit decreased by 29.4%, surpassing the annual target of 29.1%.

In addition to energy consumption and waste reduction, TSMC will expand its management scope to water and carbon emission reduction in 2021, requiring suppliers to implement measures to reduce water consumption, set specific reduction targets, and regularly follow up on the results. TSMC aims to reduce water consumption by a cumulative total of 35 million tons by 2030. At the

same time, TSMC also requires High Energy Consumption Suppliers to undergo greenhouse gas emission certification and receive ISO 14064-1 Organization Quantification and Reporting of Green House Gases certification. The goal is to achieve a 100% completion rate by 2030. By working closely with suppliers, TSMC aims to mitigate climate change risks.

### Targets and Achievements of Suppliers' Efforts to Reduce Electricity and Water Consumption, Waste, and Carbon Emission

