An Attractive Employer

Employees are TSMC’s most valuable asset and the Company values its commitment to employees, building a friendly workplace exceeding domestic and international standards in safety, health, and human rights. TSMC aims to build a challenging and fun work environment where learning never stops, with the aim of attracting and retaining colleagues with common values willing to stay and grow together with the Company.

Global employee compensation and benefits exceeded NT$108.2 billion

Recruited 2,323 new employees globally and provided excellent working opportunities

Enhanced OHS control measures, with no reported cases of occupational diseases caused by chemical or physical exposure
**Talent Attraction and Retention**

*Note*

**Bolster Employee Commitment**

Fulfill core values and provide an attractive workplace with competitive compensation packages and an environment where all individuals are willing to communicate.

- **Long-term Goals**
  - Recruit talents with shared vision and values
    - Target Year: 2025
  - Maintain total compensation above 75th percentile among high-tech industry peers
    - Target Year: 2025
  - Conduct biennial TSMC Core Value Survey to ensure
    - over 95% of employees are fully committed to their work
    - over 95% of our employees are willing to continue contributing their talents at TSMC in the next five years
    - Target Year: 2025
  - The ideal longterm turnover rate is between 5% to 10%
    - Target Year: 2025

- **2018 Achievements**
  - All new hired employees in TSMC facilities in Taiwan undergo the standard assessment and interviews, indicating they are sharing the same vision and core values
    - Target: All new TSMC employees should undergo the standard assessment and interviews to ensure they embrace our shared vision and core values
  - According to the compensation survey report, the total compensation of employees in TSMC facilities in Taiwan is above 90th percentile comparing with its industrial peer groups, whereas the total compensation of employees in Overseas Organization is above 75th percentile
  - The year 2018 TSMC Core Value Survey indicated that
    - over 95% of employees are fully committed to their work
    - over 95% of our employees are willing to continue contributing their talents at TSMC in the next five years
    - Target: Over 95% of employees are fully committed to their work and are willing to keep contributing their talents to TSMC in the next five years
  - The annual turnover rate is 4.5%

- **2019 Targets**
  - Apply standard assessment and interviews to all (100%) external hiring process in two fabs in China
  - Turnover rate of new hires (onboard less than a year) is less than 15%
  - Maintain total compensation above 75th percentile among high-tech industry peers
  - The annual turnover rate shall maintain between 5% to 10%

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**Note** Changes in talent attraction and retention strategies:

TSMC’s human resources strategies not only keep the Company’s core values at heart but also ensure that TSMC’s business philosophy is being followed, while keeping up with the times and always striving to improve. In 2018, TSMC continued efforts in three focuses that are highly relevant to our stakeholders, including (1) Talent Attraction and Retention, (2) Talent Development and (3) Human Rights. Meanwhile, we set up our 2025 Sustainable Development Goals to adjust to internal and external changes. As a result, our strategies and annual targets have been updated accordingly.
Recruiting Standards

“Right people with shared vision and values” has always been the Company’s guideline for recruiting talent, designing compensation packages, managing employees’ performance, and developing training programs. All employees at TSMC are treated equally regardless of their gender, religion, race, nationality, or political affiliation. With shared vision, all of our employees live with the same values and code of conduct. In belief of ‘right people for the right jobs’, the Company is devoted to maximizing employee performance and strengths by fitting them for the right positions, which enables employees’ development and company’s continuous growth at the same time, creating a win-win situation that makes TSMC a better company.

In recent years, with the development of technology and the rise of young talent, TSMC believes that only through proactive measures in talent attraction and retention can the Company acquire momentum in research and development, manufacturing, and service, and at the same time sustain TSMC’s long-term competitive advantages in face of global competition and challenges.

Under the ‘right people with shared vision and value’ guideline, character and qualifications, instead of professional skills, are the most important selection criteria at TSMC. We have established a set of selection criteria to ensure recruitment quality, such as integrity, resilience, initiative, and innovation. Applicants shall be evaluated by the selection criteria assessment and interviews to ensure we find the right people with shared vision and values.

Workforce Structure

At the end of 2018, there were a total of 48,752 employees at TSMC, including 31,688 managers, professional and assistants, and 17,064 technicians on the production lines. Since the semiconductor industry is both knowledge and technology-intensive, over 80% of our managers and professionals hold a Master’s degree or higher.

Around 90% of TSMC’s employees are based in Taiwan. The remaining 10% in subsidiaries in China, North America, Europe, Japan, South Korea, and other countries.

Global Workforce Structure

<table>
<thead>
<tr>
<th>Categories</th>
<th>Groups</th>
<th>Male</th>
<th>Female</th>
<th>Subtotal and Percentage by Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage of Group</td>
<td>Number</td>
<td>Percentage of Group</td>
</tr>
<tr>
<td>Employee category</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers</td>
<td>4,625</td>
<td>87.4%</td>
<td>669</td>
<td>12.6%</td>
</tr>
<tr>
<td>Professionals</td>
<td>18,347</td>
<td>82.3%</td>
<td>3,938</td>
<td>17.7%</td>
</tr>
<tr>
<td>Assistant Engineers / Clerical</td>
<td>3,325</td>
<td>80.9%</td>
<td>784</td>
<td>19.1%</td>
</tr>
<tr>
<td>Technicians</td>
<td>3,578</td>
<td>21.0%</td>
<td>13,486</td>
<td>79.0%</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>26,715</td>
<td>61.4%</td>
<td>16,790</td>
<td>38.6%</td>
</tr>
<tr>
<td>Asia</td>
<td>2,077</td>
<td>56.6%</td>
<td>1,593</td>
<td>43.4%</td>
</tr>
<tr>
<td>North America</td>
<td>1,048</td>
<td>68.9%</td>
<td>474</td>
<td>31.1%</td>
</tr>
<tr>
<td>Europe</td>
<td>35</td>
<td>63.6%</td>
<td>20</td>
<td>36.4%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 20</td>
<td>19</td>
<td>51.4%</td>
<td>18</td>
<td>48.6%</td>
</tr>
<tr>
<td>21 - 30</td>
<td>7,566</td>
<td>64.5%</td>
<td>4,160</td>
<td>35.5%</td>
</tr>
<tr>
<td>31 - 40</td>
<td>14,893</td>
<td>61.5%</td>
<td>9,324</td>
<td>38.5%</td>
</tr>
<tr>
<td>41 - 50</td>
<td>6,012</td>
<td>56.8%</td>
<td>4,578</td>
<td>43.2%</td>
</tr>
<tr>
<td>51 - 60</td>
<td>1,257</td>
<td>62.6%</td>
<td>750</td>
<td>37.4%</td>
</tr>
<tr>
<td>60+</td>
<td>128</td>
<td>73.1%</td>
<td>47</td>
<td>26.9%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ph.D</td>
<td>2,063</td>
<td>90.8%</td>
<td>210</td>
<td>9.2%</td>
</tr>
<tr>
<td>Masters</td>
<td>16,977</td>
<td>81.7%</td>
<td>3,806</td>
<td>18.3%</td>
</tr>
<tr>
<td>Bachelors</td>
<td>7,780</td>
<td>61.6%</td>
<td>4,846</td>
<td>38.4%</td>
</tr>
<tr>
<td>Other Higher Education</td>
<td>1,582</td>
<td>29.2%</td>
<td>3,838</td>
<td>70.8%</td>
</tr>
<tr>
<td>High School</td>
<td>1,473</td>
<td>19.3%</td>
<td>6,177</td>
<td>80.7%</td>
</tr>
<tr>
<td>Employment Type</td>
<td>Regular</td>
<td>29,875</td>
<td>61.3%</td>
<td>18,877</td>
</tr>
<tr>
<td>Total</td>
<td>48,752</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Female Workers

All employees at TSMC are treated equally regardless of their gender, religion, race, nationality, or political affiliation. Due to the nature of the semiconductor industry, Taiwan’s cultures and other factors, over 60% of our employees are male. Going into details, over 80% of our managers, professionals, and assistants are male; over 80% of technicians on production lines are female. With the development of factory automation, the demand for production line technicians, a female-dominated employee category, is decreasing which leads to a gradual decrease in the ratio of female workers in the Company. In view of this trend, TSMC pays attention to this issue and it is among the Company’s top priorities to retain both female workers and overseas professionals in order to create an inclusive and encompassing workplace.

Although the ratio of the Company’s female employees has been decreasing in recent years, through talent attraction and retention programs, female and male employees at TSMC show similar promotion rates, a ratio of 0.95:1 (excluding subsidiary Wafertech, VisEra). In particular, the promotion rate of female managers (excluding the management team) is even slightly higher than their male counterparts, with a ratio of 1.05:1 (excluding subsidiary Wafertech, VisEra). In 2019, TSMC will continue working on the issue of gender equality. The Company will adopt all possible measures to strive to retain as many female workers as possible and provide them with the opportunity to live up to their full potentials and make contributions to TSMC.

<table>
<thead>
<tr>
<th>Region / Subsidiary</th>
<th>Position</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan</td>
<td>Managers</td>
<td>1</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>1</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Assistant Engineers / Clerical</td>
<td>1</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>Technicians</td>
<td>1</td>
<td>1.14</td>
</tr>
<tr>
<td>China</td>
<td>Managers</td>
<td>1</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>1</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td>Assistant Engineers / Clerical</td>
<td>1</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Technicians</td>
<td>1</td>
<td>1.07</td>
</tr>
<tr>
<td>North America, Europe, Japan, and South Korea</td>
<td>Managers</td>
<td>1</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>1</td>
<td>0.78</td>
</tr>
<tr>
<td>VisEra</td>
<td>Managers</td>
<td>1</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>1</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>Assistant Engineers / Clerical</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Technicians</td>
<td>1</td>
<td>1.04</td>
</tr>
<tr>
<td>Wafertech</td>
<td>Managers</td>
<td>1</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>Professionals</td>
<td>1</td>
<td>0.83</td>
</tr>
<tr>
<td></td>
<td>Assistant Engineers / Clerical</td>
<td>1</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>Technicians</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Talent Recruitment

Around 90% of employees at TSMC are based in Taiwan, while overseas employees are mostly based in Asia, accounting for 7.5% of total employees. Recruitments at global branches mainly focus on hiring local residents. However, in Taiwan, due to the demand for research and development talent and a diversified talent pool, we have been targeting both new graduates and overseas professional talent. TSMC believes that recruiting professional talent from around the world will help enhance the Company's growth in the long-term.

New Employees

<table>
<thead>
<tr>
<th>Unit: numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,770</td>
</tr>
<tr>
<td>4,040</td>
</tr>
<tr>
<td>3,696</td>
</tr>
<tr>
<td>3,663</td>
</tr>
<tr>
<td>2,853</td>
</tr>
<tr>
<td>2,323</td>
</tr>
<tr>
<td>1,777</td>
</tr>
</tbody>
</table>

Interns Receiving Advance Offers or Hired in TSMC

<table>
<thead>
<tr>
<th>Unit: numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total interns</td>
</tr>
<tr>
<td>Interns receiving advance offers</td>
</tr>
<tr>
<td>Interns who have joined or are about to join TSMC</td>
</tr>
</tbody>
</table>

Note: Data included TSMC's facilities in Taiwan.

In 2018, 259 students participated in our internship program, and 67 of them were female, accounting for 25% of total participants. After the internship, 83 interns received advance offers after evaluation, accounting for 32% of total participants. Among them, 24% were female. Ratios of female students participating in the internship program, receiving advance offers, or joining TSMC are higher than the current ratio of 17.7% of female professionals at TSMC, demonstrating the Company's efforts in balancing the gender ratio.

By the end of 2018, an average of 40% of interns from 2016 and 2017 have joined TSMC through either advance offers or regular recruitment, and the ratio is expected to continue to increase in the future. The result indicates that the internship program enables the Company in early recruitment. Through the internship program, students have the opportunity to familiarize themselves with the industry in advance and to discover their own interests and targeted fields. After these students return to schools, they will put more focus on semiconductor-related courses to adapt to the industry better in the future.

Campus Recruitment

TSMC's core values, corporate culture, and world-leading business performance are highly recognized by residents in Taiwan, making it a highly desirable company for young graduates. The Company actively recruits talent with shared vision and values via our official website, campus recruitment, intern programs, JDP (Joint Development Program), RDSS (Research Development Substitute Services), social media, and more. In 2018, TSMC recruited 2,323 new employees, including 79.7% of young generation under 30 years old.

Internship Program is one of the key annual recruitment programs at TSMC, which we obtain referrals from university professors, campus department offices, and internal employees as well as promotions through social media and face-to-face interaction with students at campus job fairs. Through internship program, the Company is able to early engage students in semiconductor research and manufacturing, and inspire young talent to join the semiconductor industry.
Overseas Talent Recruitment

To sustain the Company’s diversified talent pool and recruit talent in special fields, TSMC has continuously invested in “Overseas Talent Recruitment”, especially in the regions where global Semiconductor elites are located. Over the years, the Company has conducted joint development programs with prestigious universities such as MIT, Stanford University, and the University of California, Berkeley to cultivate top research talent and scout out exceptional overseas talent, providing TSMC with an edge in attracting fresh graduates to devote their talent to the Company. In addition to overseas students, we recruit experienced semiconductor talent by visiting major tech cities in the U.S. as well as Canada, India, Japan, the UK, Germany, Belgium, and the Netherlands.

Overseas New Hires in TSMC

<table>
<thead>
<tr>
<th>Year</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>205</td>
</tr>
<tr>
<td>2015</td>
<td>171</td>
</tr>
<tr>
<td>2016</td>
<td>114</td>
</tr>
<tr>
<td>2017</td>
<td>124</td>
</tr>
<tr>
<td>2018</td>
<td>67</td>
</tr>
</tbody>
</table>

Note: Data included TSMC’s facilities in Taiwan.

Overseas New Hires in VisEra

<table>
<thead>
<tr>
<th>Year</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>3</td>
</tr>
</tbody>
</table>

Creating a Friendly Workplace and Attracting Outstanding Indian Talent

Over the past few years, TSMC relied on remote communication to recruit Indian talent. In 2018, in order to increase the employer brand recognition of TSMC among Indian talent, TSMC collaborated with the National Chiao Tung University (NCTU) to conduct an International Student Program and host “TSMC Day” at the Indian Institute of Technology. During the workshop, TSMC had face-to-face interactions with outstanding students in the IC design fields and invited them to join advanced semiconductor research projects. TSMC not only encouraged participating students to apply for dual degree programs, but also provided them with summer internships and priority interview opportunities. In 2018, TSMC hired 30 talent from six campuses of the Indian Institute of Technology, significantly enhancing the Company’s talent attraction.

In addition to attracting overseas talent to join the semiconductor industry, TSMC is dedicated to creating an inclusive and friendly workplace to retain these talent. Our Indian employees have organized an Indian culture club and created an online social media group “TSMC Indian Family”, which our Human Resources Department has been proactively encouraging Indian employees to join the group and become familiar with each other through a variety of activities, such as Picnic Day, Indian Culture Day, Diwali, and cricket Tournament. As a result, the club not only serves as a hub of communication and a platform for resource sharing, but also helps Indian employees overcome language barriers, forge new friendships, and build a home away from home.

TSMC Day

Case Study
According to Article 38 of the People with Disabilities Rights Protection Act in Taiwan, the number of disabled people with employability shall be no less than 1% of a company’s total employees, and when a company employs a person with severe disabilities, that person shall be calculated as two. In addition, companies that do not employ a sufficient amount of people with disabilities shall periodically pay subsidies based on the deficient amount to the Disabled Employment Funds. The amount of the subsidies is based on the deficient amount of employed disabled workers multiplied by monthly basic wage.

TSMC spares no efforts in following the government’s regulation in regards to recruiting disabled workers and provides high quality working opportunities for disabled university students or graduates. In 2018, TSMC continuously collaborated with universities to provide diversified and high quality job opportunities for people with disabilities. In addition to the current jobs available, TSMC continuously develops positions suitable for people with disabilities, such as “Recruitment Service Representatives.”

In 2018, TSMC fabs in Taiwan employed 330 people with mild or moderate disabilities, and 62 people with severe disabilities, with the weighted ratio reaching 1% of total employees, which is in line with legal requirements. In addition, our subsidiary in Taiwan, VisEra, provides full-time job opportunities for people with disabilities and employed 3. However, due to the nature of available job vacancies, recruitment was difficult with insufficient applicants. VisEra did not reach the required 1% weighted ratio of employees with disabilities and has paid the difference in subsidies according to legal requirements. In the future, VisEra will continue with providing job opportunities for people with disabilities and look forward to more applicants.

Fulfill Internal Transfer Policy
To help our employees take the initiative in arranging and planning their career path, TSMC has been dedicated to increasing the transparency of internal job opportunities to encourage internal transfers. Our goal is to put right people in the right place and decrease turnover rates. In 2018, we achieved the annual target of 100% internal transfer ratio, and the ratio of positions filled by internal transfer is still increasing at a steady pace.

Employee Turnover Rate
TSMC believes that a healthy turnover rate of a company should be maintained between 5% and 10%. In 2018, the turnover rate of the Company was 4.5%, slightly below the healthy range. To maintain healthy employee flows, the Company continuously provides challenging vacancies for potential candidates. The number of new hires has been gradually decreasing due to a decrease in vacancy demand and turnover rate. As a result, the new employee ratio has been declining, and the ratio of job vacancies filled through internal transfer is on a steady rise.
Compensation and Benefits

Competitive Total Compensation

TSMC provides competitive compensation packages to attract and retain the best talent, and to reward employees’ performance and encourage their long-term contribution, which include base salary, allowance, employees’ cash bonus and profit sharing. The total compensation of an employee is determined basing on individual expertise, job responsibility, performance, commitment to long-term contribution, and the Company’s operational achievement.

With the continuous growth of the Company’s revenue and profit, the expenses of overall compensation and benefits for employees provided by TSMC fabs in Taiwan increased from around NT$81.4 billion to NT$108.2 billion during the years from 2014 to 2018, and the average annual compensation and benefits per employee increased from NT$1.87 million to NT$2.22 million.

TSMC’s revenue reached a new record high in 2018. As a result, around NT$47.1 billion of cash bonuses and profit sharing were granted to TSMC fabs in Taiwan. The total compensation of a fresh engineer with a master degree is about 32 months of base salary, including 12-month base salary, 2-month year-end bonus, as well as approximately 18 months of cash bonuses and profit sharing. The average total compensation of direct labor is about 27 months of base salary, and the average monthly salary is three times higher than Taiwan’s minimum wage. TSMC’s total compensation for employees outperforms our industry peers.

2018 Salary Increase and Bonus

- In order to maintain the competitiveness of our compensation, TSMC appropriately adjusts employees’ salaries annually, taking into consideration of the results of global salary surveys, market salary scales, and economic indices.
- In April 2018, TSMC conducted salary raises for employees in Taiwan and overseas subsidiaries. The salary increase rate was 3%-5% for employees in Taiwan, 9%-10% for employees in China, and 3%-5% for employees in other regions.
- The employee incentive programs take into consideration of TSMC’s financial and operational performance, future development and the operational performance of each subsidiary, with linkage to employees’ job responsibilities and performance. The programs are implemented with short-term and long-term incentive schemes according to local industry practices.
- The incentive program of TSMC fabs in Taiwan is implemented over a period of two years. Cash bonuses are paid quarterly to provide timely incentive, and profit sharing is paid annually to encourage long-term service and continuous contribution. The incentive programs of overseas regions are either by annual cash bonus or by 1 to 3 years of long-term scheme.
- In 2018, TSMC employees’ compensation and benefits which include salary, allowances, cash bonus, profit sharing, pensions and other benefits, totaled NT$108,214,943,000.
- In 2018, the median of global employees’ annual compensation (excluding pensions and benefits) was about NT$1.58 million, and the ratio between the total annual compensation of the CEO and the median employee compensation was about 149:1. Considering the differences in compensation structure across countries, the data of median annual compensation is based on the actual amount paid to full-time employees with full-year seniority.
In addition, in accordance with the law amended by the Taiwan Stock Exchange in 2019, listed companies in Taiwan are required to disclose the number and the average compensation of full-time employees in non-executive positions, and the difference comparing to the previous year.

In 2018, the number of full-time employees in non-executive positions of TSMC Taiwan (excluding VisEra) was 42,605, with an average compensation of NT$2,009,000. In 2017, the number of full-time employees in non-executive positions of TSMC Taiwan (excluding VisEra) was 40,738, with an average compensation of NT$1,971,000. The statistics are calculated in accordance with the regulations of the Taiwan Stock Exchange, which excludes executive positions of TSMC Taiwan (excluding VisEra) was 40,738, with an average compensation of NT$2,009,000. In 2017, the number of full-time employees in non-executive positions of TSMC Taiwan (excluding VisEra) was 40,738, with an average compensation of NT$1,971,000. The statistics are calculated in accordance with the regulations of the Taiwan Stock Exchange, which excludes executive officers and employees eligible for exemption. For those not employed with the Company for the entire year, the data is prorated. And the profit sharing amount is at profit-year basis therefore part of the compensation data is projected.

Benefits Exceeding Statutory Requirements
To motivate employees to strive for the Company’s long-term development, TSMC offers employees benefits which exceed the statutory requirement, including holidays, insurance, pensions, financial assistance for encountering difficult circumstances, subsidies for marriage / childbirth / funerals, and discounts provided by designated vendors, to name a few. Each fab has a 24-hour health center with services above the requirements of laws and regulations, including health care management professionals with on-site service doctors and cooperation with medical institutes such as hospitals and Hsinchu Lifeline. Employees’ physical and mental health are covered from all aspects.

In regards to disaster relief, in August 2018 there was heavy rain in central and southern Taiwan due to a tropical depression which caused severe damage and many employees’ families suffered from the flood. TSMC Employee Welfare Committee set up a disaster relief program which provided 251 employees with a total of NT$2.61 million to mitigate the impacts of the natural disaster and assist employees to continue working without worry about family affairs.

Note Please refer to the Occupational Safety and Health chapter for details.

Compensation and Benefits Expenses
Unit: NT$ million

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp. Indus.</td>
<td>81,434</td>
<td>91,605</td>
<td>99,685</td>
<td>104,130</td>
<td>108,215</td>
</tr>
<tr>
<td>Average Comp. Indus.</td>
<td>1.87</td>
<td>2.02</td>
<td>2.12</td>
<td>2.14</td>
<td>2.22</td>
</tr>
</tbody>
</table>

Benefits Practices which Exceed the Statutory Requirements

<table>
<thead>
<tr>
<th>Item</th>
<th>Labor Law</th>
<th>TSMC Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holidays</td>
<td>12 national holidays per year</td>
<td>In order to take care of newly hired employees, 1 day annual leave for every 2 months of service in the first year</td>
</tr>
<tr>
<td>Annual Leave</td>
<td>3 days for new hires with more than 6 months and less than one year of employment</td>
<td>120 hours fully-paid and 120 hours half-paid sick leave per year</td>
</tr>
<tr>
<td>Sick Leave</td>
<td>30 days of half-paid sick leave per year</td>
<td>In addition to personal-affairs leave, employees are entitled to 90 days of special personal leave with approval by authorized supervisors if they must attend to important personal affairs</td>
</tr>
<tr>
<td>Personal-affairs Leave</td>
<td>14 days of personal-affairs leave per year</td>
<td>In addition to the Labor Insurance and National Health Insurance, TSMC provides comprehensive group insurance plans to employees free of charge. Coverage includes life insurance, accident insurance, hospital insurance, cancer insurance, and business travel insurance. Besides, employees have the flexibility to participate in group insurance plans for their families at lower price. The group insurance coverage is extended free of charge to employees on unpaid leave for purposes identified by labor law. The group insurance plans that VisEra provides is somewhat different from those mentioned above. VisEra provides group insurance for employees’ family free of charge, and group insurance for six months free of charge to employees on unpaid leave for purposes identified by labor law.</td>
</tr>
<tr>
<td>Insurance Plan</td>
<td>Employee shall be covered by the Labor Insurance and National Health Insurance from the first day on board</td>
<td>In addition to the Labor Insurance and National Health Insurance, TSMC provides comprehensive group insurance plans to employees free of charge. Coverage includes life insurance, accident insurance, hospital insurance, cancer insurance, and business travel insurance. Besides, employees have the flexibility to participate in group insurance plans for their families at lower price. The group insurance coverage is extended free of charge to employees on unpaid leave for purposes identified by labor law. The group insurance plans that VisEra provides is somewhat different from those mentioned above. VisEra provides group insurance for employees’ family free of charge, and group insurance for six months free of charge to employees on unpaid leave for purposes identified by labor law.</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td>41 staff, in accordance with the number of company employees</td>
<td>In addition to meeting the statutory standards, TSMC partners with hospitals to assign 46 nursing staff to provide employees with emergency care and health management services.</td>
</tr>
<tr>
<td>Health Examination</td>
<td>Depending on the age: Once a year for employees above age of 65. Once every three years for employees between 40 to 64. Once every five years for employees under 40.</td>
<td>Once a year for all ages.</td>
</tr>
<tr>
<td>Counseling Services</td>
<td>None</td>
<td>Free psychological, legal, and financial counseling services.</td>
</tr>
</tbody>
</table>

Note TSMC’s overseas subsidiaries provide leave and insurance policies in accordance with local regulations and employee’s needs. For leave policies, China, North America and Europe subsidiaries all provide more leave days than local statutory requirements. For insurance policies, all subsidiaries provide comprehensive life and medical insurance programs.
Parental Benefits
To provide employees with sufficient support facing work-life dilemma, TSMC offers employees parental leaves in accordance with local laws and regulations, sets up four kindergartens in Taiwan, and provides a comprehensive leave policy. Employees have flexibility in making use of their leaves to fulfil both individual and family needs. In addition to paid leaves, employees can also apply for unpaid leaves in cases of taking care of children, military service or major injuries which require a long recovery period.

Take unpaid parental leave as an example, there were 545 employees in Taiwan applied for it in 2018.

In 2018, 80.2% of employees returned to work after unpaid parental leaves. 566 employees were expected to return to work, and 454 of them have returned to work as scheduled or in advance.

In 2018, the retention rate after unpaid leaves was 81.4%. The retention rate refers to employees stayed with the Company for more than one year after returning from unpaid parental leaves. Among the 474 employees who returned to work in 2017, 386 of them were still in service at the end of 2018. This shows that TSMC has provided proper assistance to the reinstated employees for them to adapt to their working environment.

In addition, in 2018 the number of TSMC employees in Taiwan aged between 20 and 64 accounted for 0.28% of Taiwan's population of the same age group. Meanwhile, the number of employees’ newborns was 2,682, which accounted for 1.5% of the total newborns in Taiwan. This is a positive result of TSMC's outstanding employee benefits.

The Application Rate for Parental Leave, Return to Work Rate, and Retention Rate

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Employees</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees expected to return after parental leave in 2018</td>
<td>450</td>
<td>77.6%</td>
</tr>
<tr>
<td>Employees expected to return after parental leave in 2018 and returned as scheduled or in advance</td>
<td>364</td>
<td>80.2%</td>
</tr>
<tr>
<td>Employees returned to work after parental leave in 2017</td>
<td>390</td>
<td>80.9%</td>
</tr>
<tr>
<td>Employees returned to work after parental leave in 2017 and still in service in 2018</td>
<td>317</td>
<td>82.1%</td>
</tr>
<tr>
<td>Employees qualified for parental leave in 2018</td>
<td>5428</td>
<td>6.9%</td>
</tr>
<tr>
<td>Employees applied for parental leave in 2018</td>
<td>438</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

Note: Data were collected from TSMC's facilities in Taiwan and VisEra.
TSMC Employees’ Newborns

Unit: numbers

2014 2015 2016 2017 2018
210,383 213,598 208,440 193,844 181,601
2,547 2,726 2,700 2,721 2,682
1.2% 1.3% 1.3% 1.4% 1.4%

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Newborns in Taiwan</th>
<th>Number of TSMC Employees’ Newborns</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>210,383</td>
<td>2,547</td>
<td>1.2%</td>
</tr>
<tr>
<td>2015</td>
<td>213,598</td>
<td>2,726</td>
<td>1.3%</td>
</tr>
<tr>
<td>2016</td>
<td>208,440</td>
<td>2,700</td>
<td>1.3%</td>
</tr>
<tr>
<td>2017</td>
<td>193,844</td>
<td>2,721</td>
<td>1.4%</td>
</tr>
<tr>
<td>2018</td>
<td>181,601</td>
<td>2,682</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

**Solid Pension System**

TSMC’s employee pension system includes the Defined Benefit Plan under the Taiwan Labor Standards Act, the Defined Contribution Plan under the Taiwan Labor Pension Act, as well as the practices in overseas regions. In addition to statutory contributions, TSMC hires professional accountants and consultants to conduct precise calculations of the Company’s pension fund, so as to assure sufficient funding for employee pension payments in the future.

**Encourage Employees’ Outstanding Performance**

TSMC recognizes and encourages employee performance through performance management, profit sharing bonus system, development system, and promotion system. For outstanding technical talent, TSMC provides a dual career ladder system as an appropriate evaluation and recognition approach. For entry level employees, TSMC annually holds Excellent Labor Awards and invites the families of awardees to join the ceremony and banquet. In order to appreciate the commitment and contribution of senior employees to the Company, TSMC also provides service awards and retirement acknowledgments.

Apart from the above awards, TSMC strives to recommend employees to participate in external awards. In 2018, TSMC employees continued to be recognized through national awards and competitions such as the National Model Labor Award, the Outstanding Engineer Award, the Excellent Young Engineers Award, and the National Management Excellence Award.

**Pension Allocation and Preparation**

<table>
<thead>
<tr>
<th>Pension Plan</th>
<th>TSMC’s Practices</th>
<th>Preparation in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined Benefit Plans</td>
<td>TSMC provides a defined benefits plan based on an employee’s length of service and average monthly salary of six-month period prior to retirement in accordance with the Labor Standards Act.</td>
<td>Each month TSMC contributes an amount equal to 2% of salaries paid to the pension fund. VisEra contributes a fixed amount to the pension fund.</td>
</tr>
<tr>
<td>Defined Contribution Plans</td>
<td>The money was administered by the Labor Pension Fund Supervisory Committee and deposited in the Committee’s name at the Bank of Taiwan.</td>
<td>The fair value of TSMC’s plan assets in Taiwan was NT$4,011,279,000 at the end of 2018. In accordance with the above provisions, the amount of recognized expenses of TSMC in 2018 was NT$281,866,000. The amount of accrued pension liabilities to be contributed in accordance with the law was NT$9,651,405,000 at the end of 2018.</td>
</tr>
<tr>
<td></td>
<td>TSMC in Taiwan makes monthly contributions equal to 6% of each employee’s monthly salary to employees’ personal accounts in the Bureau of Labor Insurance.</td>
<td>VisEra’s pension reserve amount was NT$1,594,760.</td>
</tr>
<tr>
<td></td>
<td>TSMC’s overseas subsidiaries also make monthly contributions to the pension management department at certain percentages of the base salary of their employees.</td>
<td></td>
</tr>
</tbody>
</table>

TSMC hosted Excellent Labor Awards to recognize and praise the performance of entry level employees. The family members and friends of Awardees participated in the events to show support.
**Employee Engagement**

**Cohere Identity**

To retain outstanding talent dedicated to their jobs, TSMC integrates communication channels. With a diverse and innovative way of guidance, including interactive websites, short films, employees' homemade videos, meetings, lectures, and internal reports, etc., TSMC constantly strengthens its four core values, 'Integrity', 'Commitment', 'Innovation', and 'Customer Trust' to deepen employees' identity toward the Company and establish a two-way commitment. TSMC also recognizes the contribution of employees by means of internal and external awards, such as, Excellent Young Engineers Award by Chinese Institute of Engineers, National Outstanding Worker Award by Ministry of Labor; and in the Company, several activities are held on Secretary Day, Labor Day, and Engineer's Day for recognition delivery.

**Employee Engagement Survey**

TSMC's core values – ‘Integrity’, ‘Commitment’, ‘Innovation’ and ‘Customer Trust’ – have been established since the founding of the Company by Dr. Morris Chang. In June of 2018, Founder Dr. Morris Chang retired. Newly appointed Chairman Mark Liu, and Chief Executive Officer C.C. Wei asked all colleagues to continue to adhere to the Company's core values, and continuously expressed the Company's vision, core values, and business philosophy through multiple channels such as meetings, speeches, and internal reports to strengthen corporate culture and two-way commitment between the Company and its employees.

Since 1998, TSMC has conducted a biennial survey on employees' opinion on core values to find out the extent of implementation of core values by employees and their degree of engagement. The survey covers TSMC fabs in Taiwan, TSMC China Company Limited, TSMC Nanjing Company Limited, TSMC North America, TSMC Design Technology Canada Inc., TSMC Europe B.V., TSMC Japan Limited, and TSMC Korea Limited. The survey covers 95% of employees in TSMC and its subsidiaries. WaferTech and VisEra are not included in the survey census due to different culture backgrounds.

The results of the Employee Opinion Survey on core values conducted in 2018 showed an overall average significant improvement compared with that two years ago. In terms of employee engagement, among the two questions in the ‘commitment’ section, 98% of the staff expressed their willingness to devote themselves to work and make the Company better. 96% of the staff expressed their willingness to grow with the Company and show their expertise in the next five years. The results of the above two questions exceeded the expected target of 95%, indicating that the Company's current policies and promotion programs have achieved positive results, and colleagues generally agree on the implementation of the Company's core values.

**TSMC Core Value Score**

<table>
<thead>
<tr>
<th>Year</th>
<th>Samples</th>
<th>Integrity</th>
<th>Commitment</th>
<th>Innovation</th>
<th>Customer Trust</th>
<th>Average Score</th>
<th>Response Rates</th>
<th>Effective Sample Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>46,288</td>
<td>4.72</td>
<td>4.70</td>
<td>4.66</td>
<td>96%</td>
<td>4.70</td>
<td>4.76</td>
<td>95%</td>
</tr>
<tr>
<td>2016</td>
<td>44,140</td>
<td>4.72</td>
<td>4.66</td>
<td>4.71</td>
<td>93%</td>
<td>4.70</td>
<td>4.72</td>
<td>95%</td>
</tr>
<tr>
<td>2018</td>
<td>43,748</td>
<td>4.80</td>
<td>4.76</td>
<td>4.66</td>
<td>90%</td>
<td>4.76</td>
<td>4.75</td>
<td>96%</td>
</tr>
</tbody>
</table>

Note 1 The questionnaire is composed of five subscales.
No less than 50% of learning and development programs designed for organization needs are to be integrated with self-directed learning mechanisms.

Target Year: 2025

64.7% of job vacancies were filled by internal transfer

Target: 64%

55% of organization learning and development programs were integrated with self-directed learning mechanisms

Target: ≥ 50%

Train employees in Fab 16 (Nanjing) with necessary skills and successfully began mass production in October 2018, setting records for both the fastest fab construction and the quickest production.

Target: Continue to support the training for employees of the new fab to fulfill tasks such as fab construction, tool installation, or mass production

Note Explanation of changes in talent development strategies:
All actions of TSMC human resources are required to align with the Company’s Core Values and Business Philosophy. They must also strive for continuous improvement and keep pace with advances in society. In 2018, TSMC continued to manage three important issues of great concern to stakeholders: (1) talent attraction and retention, (2) talent development, and (3) human rights. In response to internal and external changes, the Company has renewed its Sustainable Development Goals for 2025 and has made appropriate adjustments to their Strategies and Annual Targets.
Fulfill Talent Development

Encouraging job rotations and promoting self-directed learning are important strategies for talent development at TSMC. In terms of encouraging job rotations, TSMC has proactively implemented on-the-job training and certification systems, allowing employees to learn and improve their effectiveness in the workplace. The Company not only systematically designs job rotation programs to cultivate future talent, but also encourages its employees to complement their career plans with the Company’s organization development, so as to increase internal talent mobility and allow them to bring their talents to play and continue to grow.

In regards to self-directed learning, TSMC encourages employees to participate in diverse learning activities aligned with the Company's development, organization needs, and individual performance. These activities are available whenever where possible and encompass a wide variety of methods and fields. This enables employees to constantly improve their effectiveness in the workplace, gain more momentum for the Company's growth, and uplift the society.

Direction of Talent Development

To help the organization and employees grow rapidly to adapt to the changing environment and fulfill the organization needs.

Pass Down Company Culture
Enhance employee's recognition and fulfillment of the Core Values to continue strengthening them alongside the expansion of the Company.

Enhance Management Literacy
Increase the management literacy of executives at each level to motivate employees to perform their jobs with diligence and commitment.

Develop Talent Capabilities:
Actively enhance the development and cultivation of high-quality talent capabilities among internal employees to cope with the increasing difficulty of seeking external talent.

Strengthen Learning Systems and Resources
Encourage employees to voluntarily learn via diverse learning mechanisms and strengthen learning management systems for knowledge sharing and inheritance.

Criteria for Promotion
List 'Potential' as a critical promotion criteria

Talent Mobility
Increase the transparency of internal job opportunities and respect the internal transfer requests of employees, allowing them to arrange their career path to complement organization developments and boost internal talent mobility.

Dual Career Ladder Approach
Build a comprehensive personnel development structure, and strengthen relevant HR policies and procedures to provide an environment where employees can find their specialty and thrive.
Diverse and Equal Opportunities for Learning and Development

Given that the Company's growth is closely related to learning and development of its employees, TSMC has planned on its employee training and development with three key elements – Goal, Plan, and Discipline. The Company strives to create a diverse, equal, and sustainable learning environment abundant in learning resources, and has therefore established the "TSMC Employee Training and Education Procedure" to integrate internal and external resources which will cultivate and improve employee abilities and facilitate their growth alongside the Company.

TSMC's employees plan their own Individual Development Plans based on their job requirements and performance assessment results. This is one of the bases of the Company's annual training plan. In 2018, TSMC provided over 540,000 hours in training and activities for learning and development with over 550,000 attendees completing training. On average, each employee has received more than 11 hours of training, and the Company has invested more than NT$83 million in these training programs.

In order to verify the effectiveness of training, TSMC measures the success of training through four levels of evaluation — reaction, learning, behavior, and results — based on the theory of American scholar Donald L. Kirkpatrick. All public training courses were evaluated at the reaction level in 2018, with an average satisfaction score of 93. In addition, 2,805 online courses conducted learning evaluations, with a total of 452,435 participants having completed the training and passed the learning evaluation. Additionally, 18% of public courses and customized training programs were evaluated at the behavior level. Most on-the-job training held by each organization also passed evaluations at the learning level or behavior level. The results of these evaluations have been built into the personnel performance management and development system.

### Historical Training Index

<table>
<thead>
<tr>
<th>Year</th>
<th>Trainees who Completed Training</th>
<th>Average Evaluation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>884,174</td>
<td>92</td>
</tr>
<tr>
<td>2015</td>
<td>780,546</td>
<td>93</td>
</tr>
<tr>
<td>2016</td>
<td>623,711</td>
<td>94</td>
</tr>
<tr>
<td>2017</td>
<td>639,852</td>
<td>95</td>
</tr>
<tr>
<td>2018</td>
<td>540,408</td>
<td>93</td>
</tr>
</tbody>
</table>

Note 1 Due to the design differences between training systems, the average evaluation score excluded data from TSMC North America.

Note 2 The index, “Newly Certified Internal Instructor,” in the 2017 CSR Report, is modified with 'Certified Internal Instructors' in the 2018 CSR Report.

### Average Training Hours per Manager and per Employee in Direct and Indirect Labor

<table>
<thead>
<tr>
<th>Year</th>
<th>Manager</th>
<th>Indirect Labor</th>
<th>Direct Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>14.2</td>
<td>25.8</td>
<td>12.1</td>
</tr>
<tr>
<td>2015</td>
<td>16.3</td>
<td>23.2</td>
<td>10.6</td>
</tr>
<tr>
<td>2016</td>
<td>9.2</td>
<td>15.3</td>
<td>7.4</td>
</tr>
<tr>
<td>2017</td>
<td>5.9</td>
<td>16.9</td>
<td>5.4</td>
</tr>
<tr>
<td>2018</td>
<td>5.7</td>
<td>15.1</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Unit: hour
There are two distinctive examples that reveal the results of the training programs: one is the Quality Excellence Training Program implemented in fabs in Taiwan, Shanghai, Nanjing, covering a total of over 37,051 employees. The program improved the mindset of different-level employees to pursue technical improvement and excellence in quality. It also reinforced TSMC’s image of great quality in customers and further increased the Company’s total revenue by 5.5% to over NT$1 trillion. The second example is transplanting experiences from Taiwan to Nanjing. The Company assisted Fab 16 (Nanjing) in the design of training roadmaps and implementation of on-the-job training in every department for new employees upon completion of orientation training. This enables newcomers to acquire the necessary skills for completing tasks. The Fab successfully entered mass production in October 2018, setting records for the fastest fab construction and the quickest production in TSMC.

In addition to learning and development programs implemented in line with the annual training program, TSMC also sets annual key objectives in learning and development in response to specific organization training or development needs. The top three key focuses in 2018 were as follows: the Quality Excellence Training Program, the Management Capability Enhancement Program for First-line Managers, and Supporting Training at New Fabs.

Key Learning and Development Objectives of 2018

### Quality Excellence Training Program
- **Improve employees’ mindsets of pursuing technology improvement and quality management**
- **78.8%** Training participation rate among full-time employees

The program has effectively improved the mindset of employees in different levels to pursue technology improvement and excellence in quality. In addition to helping employees become more quality-conscious, the program also adheres to the belief to “Emphasize Technology, Prioritize Quality, and Honor Customers,” thus reinforcing TSMC’s image of great quality in its customers.

### Management Capability Enhancement Program for First-line Managers
- **Enhance personnel management abilities of first-line managers**
- **9.3%** Training participation rate among full-time employees

The program has effectively improved first-line manager abilities which include communication, emotional leadership, management by exception, and personnel sensitivity in order to reduce the risks of problems in personnel management and handling personnel matters.

### Training at new fabs
- **Train employees in Fab 16 and Fab 18, and enable organizations and their personnel to complete tasks in these new fabs**
- **4.8%** Training participation rate among full-time employees

Trained employees with necessary skills quickly and Fab 16 entered mass production in October 2018, setting records for the fastest fab construction and the quickest production in TSMC. The training emphasized three principles – ingrained techniques, teamwork, and effective management. It also assisted Fab 18 in completing training and forming teams, which allowed for personnel deployment to start fab construction one quarter ahead of schedule.
Quality Excellence Training Program Reinforces TSMC’s Image of Great Quality in Customers

TSMC CEO C.C. Wei anticipates that every employee in the Company can offer the best service to become a trusted technology and capacity provider. His philosophy is to “take quality as what you would demand of yourself and be responsible for the reputation and responsibility placed upon you.” In order to satisfy customers’ needs and fulfill its own expectations, TSMC’s Human Resources organization, Operations organization, and the Quality and Reliability organization conducted the Quality Excellence Training Program for over 37,051 employees in fabs located in Taiwan, Shanghai, Nanjing, and other places. By promoting key concepts, conveying ideas, analyzing various cases, and teaching methods of improvement, the program has enhanced the mindset of trainees to pursue technology improvement and excellence in quality to further realize the belief to “Emphasize Technology, Prioritize Quality, and Honor Customers.” This has ultimately reinforced TSMC’s reputation of great quality among its customers.
Transparent Personnel Development Structure and Job Rotation System

TSMC provides employees with a comprehensive personnel development structure and has strengthened the Dual Career Ladder Approach to facilitate employee growth in management, technical, or professional fields based on their attributes and expertise. Moreover, TSMC adheres to two principles of making internal job opportunities more transparent and respecting employee transfer requests. The Company encourages employees to arrange their career path to complement organization development and has established a promotion mechanism in accordance with the personnel development structure. We have also listed “Potential” as a critical promotion criterion. Employee’s potential for promotion is evaluated by supervisors with the promotion procedures handbook and related auxiliary tools.

Chairman Mark Liu and CEO C. C. Wei took office in 2018, and they have since promoted two vice presidents and assigned eight operation team members to either rotate between different positions or expand field boundaries, with a variation rate of 52%. They have invigorated the 23-member management team, accelerated the virtuous cycles among organizations, and fulfilled the purposes of talent development and leadership cultivation.

In addition to the management team, 32.0% of managers and 29.9% of non-manager indirect labor personnel have been transferred or rotated in accordance with individual or organization development. In 2018, 64.7% of job vacancies filled by transferring internal employees increased by 1.3 percentage points from the previous year, showing that TSMC has emphasized on internal talent mobility and comprehensive leadership development. The Company will continue strengthening the Dual Career Ladder Approach and implement internal job transfer management, with the goal of having over 50% of positions be filled by transferring or promoting internal employees in order to support both individual and organization development.

Key Objectives of Personnel Development

Dual Career Ladder Approach
Build a diverse and comprehensive personnel development structure, and strengthen HR policies and procedures to create an environment for employees to find their specialty and thrive

- Clarified the differences between managerial jobs and technical jobs, and introduced performance appraisal and development procedures
- Provided different training courses for managers, and technical / professional managers
- Regularly selected academicians and commissioners of TSMC Academy to support the career development of technical staffs

Talent Mobility
Respect the internal transfer requests of employees and encourage them to proactively arrange their career path to boost internal talent mobility

- Established related managerial policies of internal job position transparency and job transfer effectiveness among transfer procedures. Helped managers better understand and implement regulations via communication.
- Eight vice presidents have either rotated between different positions or expanded field boundaries, which has set a good example of internal talent mobility.
- 32.0% of managers and 29.9% of non-manager indirect labors transferred or rotated in accordance with individual or organization development.

Promotion Criteria - Potential
Emphasize the importance of development potential among all promotion criteria and enhance the quality of promotion decisions

- Clarified the definition of ‘Potential’ and its evaluation method to make it one of the criteria for promotion
- Completed the promotion procedures handbook and related auxiliary tools to help managers conduct potential evaluation for employee promotion
Abide by local laws and regulations
- No material regulatory violation (where fines exceeds NT$1 million)
  ○ Target Year: 2025
Implement the “TSMC Human Rights Policy” and “RBA Code of Conduct”
- To reinforce ‘collective bargaining’ practice, each Taiwan branch office, including wafer fabs, testing and assembly plants, and Visera, has to adopt an e-voting system in re-elections of labor representatives
  ○ Target Year: 2025

In addition to fully implementing the RBA Code of Conduct, there are two Taiwan branch offices’ labor representatives’ term expired, and it’s the first time the e-voting system was adopted for re-election

Abide by local laws and regulations
- No material regulatory violation (where fines exceeds NT$1 million)
Implement the “TSMC Human Rights Policy” and “RBA Code of Conduct”
- There will be one Taiwan branch office’s labor representatives’ term expired in 2019, and the same e-voting system will be adopted as well

Note Explanation of human rights policy amendments:
All actions of TSMC human resources are required to align with the Company’s Core Values and Business Philosophy. They must also strive for continuous improvement and keep pace with advances in society. In 2018, TSMC continued to manage three important issues of great concern to stakeholders: (1) talent attraction and retention, (2) talent development, and (3) human rights. In response to internal and external changes, the Company has renewed its Sustainable Development Goals for 2025 and has made appropriate adjustments to their Strategies and Annual Targets.
TSMC Human Rights Policy

TSMC abides by local laws and regulations in all countries and regions where we operate, and upholds the human rights of workers, including regular, contract and temporary employees, and interns. We treat all workers with dignity and respect as understood by the international human rights standards such as The International Bill of Human Rights, The International Labour Organization's Declaration on Fundamental Principles and Rights at Work, and Ten Principles of the United Nations Global Compact. We also align our actions with the Responsible Business Alliance Code of Conduct. TSMC's Supplier Code of Conduct requires our suppliers to follow the same standards.

TSMC pays vigilant attention to the virtuous cycle of the industry and supply chain. The Company continues to extend its scope of influence to include suppliers with the goal of moving the semiconductor supply chain forward on the track to sustainable development. It also aims to encourage the construction of workplaces where employees are treated with dignity, company operations are executed ethically, and safety is prioritized. For these targets, TSMC requires all key suppliers' fabs in Taiwan to complete third party audits in line with RBA standards. The Company also signed the TSMC's Supplier Code of Conduct with its Tier 1 suppliers in 2018 to ensure that all suppliers make good of their commitments to human rights and the environment, as well as striving for improvements.
Human Rights Policy Concerns and Practices

**Provide a Safe and Healthy Work Environment**
- All employees (0 Under High-risk)
- Implement occupational disease prevention and promote physical and mental health of employees

**Eradicate Discrimination to Ensure Equal Employment Opportunity**
- From the beginning of recruitment, all TSMC hiring procedures are to comply with the law and eliminate illegal discrimination (0 Under High-risk)

**Forbid Child Labor**
- From the beginning of recruitment, all TSMC hiring procedures are to comply with the law and eliminate child labor issues (0 Under High-risk)

**Prohibit Forced Labor**
- All employees (0 Under High-risk)

**Promote Employee Physical and Mental Health and Work-life Balance**
- All employees / Employees in need (0 Under High-risk)

**Available Resources**
- Provide a variety of activities, including art activities, sports events, family activities, and parent-child activities.
- Provide opportunities for community involvement to help broaden interpersonal interactions among colleagues and enrich their work-life balance.
- Provide child care facilities and implement child care measures to assist employees.
- Provide educational counseling services to allow employees to work with a sense of security.

**Targets and Actions**

**Implement occupational disease prevention and promote physical and mental health of employees**

**Improve health services, including special protection, chemical, physical, human, biological, and socio-psychological factors**

**Allocate exemplary-qualified medical personnel to provide wide spectrum of health services, including special protection, healthcare services, health promotion, and employee assistance services**

**Quarterly meetings on occupational health management are convened by vice presidents. Participating members include ESH, fab directors, the Department of Industrial Safety and Environmental Protection, the Legal and Human Resources, and Wellness management section. The meetings are to control five main factors that cause occupational diseases, namely chemical, physical, human, biological, and socio-psychological factors**

**Allocate exemplary-qualified medical personnel to provide wide spectrum of health services, including special protection, healthcare services, health promotion, and employee assistance services**

**Eradicate Discrimination to Ensure Equal Employment Opportunity**

**From the beginning of recruitment, all TSMC hiring procedures are to comply with the law and eliminate illegal discrimination (0 Under High-risk)**

**Strictly comply with government labor laws, international labor standards, and the TSMC Human Rights Policy to implement relevant internal rules and regulations**

**Promote and implement internal control procedures by making known the non-discrimination policy in the TSMC Candidate Interview Process - one does not and shall not discriminate on the basis of race, social class, language, belief, religion, political preference, nationality, birth place, gender, sexual orientation, age, marital status, pregnancy, physical appearance, facial expressions, or disability**

**Make necessary adjustments according to findings from internal control and inspections**

**Include the non-discrimination policy in training courses for Human Resources managers**

**In notifications for internal interviews in TSMC interviews will be explicitly reminded not to ask applicants about any personal information that is not job-related during the interview**

**Make necessary adjustments according to findings from internal control and inspections**

**Include the non-discrimination policy in training courses for Human Resources managers**

**In notices for internal interviews in TSMC interviews interviewers will explicitly remind applicants not to ask applicants about any personal information that is not job-related during the interview**

**From the beginning of recruitment, TSMC follows internal control procedures to eliminate discrimination. Additionally, TSMC will not ask applicants for any information that are not related to their jobs when applicants submit their resumes through the Company's resume system**

**In line with the TSMC Human Rights Policy, the Company amended and implemented the TSMC Internal Control Procedures for Conducting Interviews. In compliance to the procedures, TSMC only accepts applicants over 18 years old and will double check the age of new employees to avoid any mistakes or omissions**

**In strict compliance with government labor laws, international labor standards, and the TSMC Human Rights Policy, TSMC will not force nor threaten any non-wage personnel to carry out work-related tasks**

**Work regulations stipulate that should the need for overtime work arise, employee consent must be received. Following overtime work, overtime pay or compensatory leave must be provided to employees**

**Conduct interviews.** In compliance to the procedures, TSMC only accepts applicants over 18 years old and will double check the age of new employees to avoid any mistakes or omissions.

**Applicants are required to provide identity documents, such as a National Identification Card, driver's license, National Health Insurance Card, or a diploma, to prove they are over 18 years old.**

**In addition to using internal systems to control and monitor working hours, TSMC has established internal communication channels and conveyed communication meetings in all fabs to raise awareness and inspect for any forced labor.**

**Set a reminder function in both time clock and overtime systems. Conduct monthly inspections of working hours in company facilities.**

**Directly and urgently aware of the following reports:**

- If there is any evidence of forced labor, supervisors will be required to make the necessary improvements and resume the rights to which employees are entitled.

**Internal Communication Channels for Employees**

- Internal communication channels include the Employee Opinion Box and Ombudsman System. There are also regular communication meetings for employees to report any issues.

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**Employee Communication**

TSMC highly values employee opinions and rights and provides several communication channels. A number of channels were managed by the highest level executives of the Human Resources Organization, and operate in a fast and confidential way to create a transparent and conducive environment for communication between managers and their staffs, and colleagues. Moreover, TSMC respects employee rights for collective bargaining and participation in peaceful assembly activities. According to regulations.

TSMC holds regular labor-management meetings, reports business operation updates to employees, and invites employees to discuss labor conditions and labor welfare. In 2018, to ensure effective communication between management level and employee, TSMC implemented the first ever e-voting system in the election of labor representatives at Taichung site, encouraging employees to sign up for the election or to vote. A total of 10 labor representatives were elected. The system increases employee involvement in decision-making.

In 2018, 3,654 cases were reported through internal communication channels, including 3 through the Sexual Harassment Investigation Committee, 106 through the Ombudsman System, 589 through the Employee Opinion Box, and 2,956 through the Fab Caring Circle. All cases have since been handled by designated teams. Employees can access these internal communication channels via the internal employee portal. These channels are also introduced to new employees to ensure that they are well-informed.

**Human Rights Risk Mitigation Measures**

In 2018, TSMC provided employees with a total of 57,885 hours of human rights protection training. In total, 43,923 employees (75,903 person-time employees) completed the training program, accounting for 90% of TSMC’s total employees. In the future, TSMC will continue to focus on human rights protection, promote related training programs, and raise awareness of human rights protection to reduce any possible risks.

**Human Rights Protection Training and Participation**

TSMC provided employees with a total of 57,885 hours of human rights protection training in 2018. In total, 43,923 employees (75,903 person-time employees) completed the training program, accounting for 90% of TSMC’s total employees. In the future, TSMC will continue to focus on human rights protection, promote related training programs, and raise awareness of human rights protection to reduce any possible risks.

**Promote Regulatory Compliance in New Employee Orientation**

Contents include prohibition on forced labor and child labor, anti-discrimination, anti-sexual harassment, working hours management, and humane treatment.

**Provide E-learning Courses for Sexual Harassment Prevention**

Contents include the definition and prevention of sexual harassment and approaches to deal with sexual harassment.

**Promote Prevention of Workplace Bullying**

Help employees understand what workplace bullying is and how to avoid any form of it in order to create a friendly, communicative and open management work environment.

**Provide Comprehensive Occupational Safety Training**

Provide employees with training for different work situations. Training includes fire safety, emergency response, first-aid, general safety and health education, fab safety, and safety training for newly promoted managers.
All cases have been handled by designated teams. Cases reported through the Sexual Harassment Investigation Committee and the Ombudsman System were investigated and reviewed by designated teams and committee members. Cases reported through the Employee Opinion Box were handled by corresponding departments whom would then collaborate to draft solutions and countermeasures. Employees can access these internal communication channels via the internal employee portal. These channels are also introduced to new employees during the training program to ensure they are well-informed in this regard.

With these effective internal communication channels, the relationship between the management level and employees has been harmonious over the years. TSMC has always respected employee rights to form a labor union, but so far none have been formed.

TSMC Internal Communications Structure

Employee Voice Channels

- **Fab Caring Circle**
  - Various Issues in Fabs
  - Person in Charge: Fab Directors

- **Employee Opinion Box**
  - Various Issues in Fabs
  - Person in Charge: Vice President, Human Resources

- **113 Caring Hotline**
  - Personal and Work-related Issues
  - Person in Charge: Vice President, Human Resources

- **Sexual Harassment Investigation Committee**
  - Sexual Harassment Issues
  - Person in Charge: Deputy Director, Legal

- **Ombudsman System**
  - Major Management Errors / Workplace Violence and Financial Auditing Issues
  - Person in Charge: Senior Director

Employee Voice Channels

- **Ombudsman System**
  - Personal and Work-related Issues
  - Person in Charge: Vice President, Human Resources

- **Sexual Harassment Investigation Committee**
  - Sexual Harassment Issues
  - Person in Charge: Deputy Director, Legal

Note: Cases reported via 113 Caring Hotline and SMS are handled by designated people and directed to other voice channels.

Number of Cases Reported through Internal Communication Channels

<table>
<thead>
<tr>
<th>Year</th>
<th>Fab Caring Circle</th>
<th>Employee Opinion Box</th>
<th>Ombudsman System</th>
<th>Sexual Harassment Investigation Committee – Cases Reported</th>
<th>Sexual Harassment Investigation Committee – Cases Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>540</td>
<td>39</td>
<td>2,956</td>
<td>589</td>
<td>3</td>
</tr>
<tr>
<td>2015</td>
<td>60</td>
<td>60</td>
<td>2,056</td>
<td>589</td>
<td>3</td>
</tr>
<tr>
<td>2016</td>
<td>80</td>
<td>79</td>
<td>1,654</td>
<td>589</td>
<td>3</td>
</tr>
<tr>
<td>2017</td>
<td>71</td>
<td>71</td>
<td>1,154</td>
<td>589</td>
<td>3</td>
</tr>
<tr>
<td>2018</td>
<td>71</td>
<td>71</td>
<td>645</td>
<td>589</td>
<td>3</td>
</tr>
</tbody>
</table>

Unit: Number of cases

Note: Data of Fab Caring Circle were collected from TSMC’s facilities in Taiwan.
E-Voting: Employee Involvement in Labor-Management Meetings

In recent years, there has been an increasing awareness of labor rights, and it is expected to have a better relationship between labor and management in society. To ensure clearer communication and a harmonious relationship between the two parties, TSMC has adopted an e-voting system in the election of labor representatives. This new system utilizes information technology to bring more convenience, increase employee involvement opportunities, and help colleagues better understand the purpose of labor-management meetings and their operation.

E-voting makes voting easier and faster, allowing employees with different work schedules to participate efficiently in the election of labor representatives. In addition, TSMC convenes quarterly fab-level and company-level labor-management meetings. In 2018, more than 60 meetings were convened to reach a consensus between labor and management, improve communication within the Company, create a friendly work environment, and the relationship between labor and management.

Labor-Management Meetings Convened by TSMC in 2018

<table>
<thead>
<tr>
<th>Fab-Level Labor-Management Meetings</th>
<th>Company-Level Labor-Management Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings were held every quarter in every fab. Given the amendment of Labor Standards Act effective March 1, 2018, one ad hoc meeting was convened. Overall, with 5 meetings in each of the 12 fabs, a total of 60 meetings were convened.</td>
<td></td>
</tr>
<tr>
<td>Meetings were held every quarter and attended by one company representative and one labor representative from each fab. Given the amendment of Labor Standards Act effective March 1, 2018, one ad hoc meeting was convened. Overall, a total of 5 meetings were convened.</td>
<td></td>
</tr>
</tbody>
</table>
Occupational Safety and Health

**Strategies**

**Advocate Safety Culture**
- Deeply instill a people-oriented safety culture, manage safety risks and establish an intrinsically safe working environment

**Comprehensive Health Management**
- Implement the prevention of occupational diseases and promote a comprehensive health management

**Internal-External Alliance**
- Collaborate with external parties to establish a safer working environment in our supply chain

**Long-term Goals**

- **Incident Rate per 1,000 employees < 0.18** *(2025)*
- **Disabling Injuries Frequency Rate (FR) < 0.41** *(2025)*
- **Work-relative Disabling Injuries Frequency Rate < 0.27** *(2025)*
- **Disabling Severity Rate (SR) < 6** *(2025)*
- **Work-relative Disabling Severity Rate < 3** *(2025)*
- **Zero cases of occupational hazards caused by exposure to chemicals** *(2025)*
- **Health program participation rate ≥ 54%** *(2025)*
- **Disabling Injuries Frequency Rate (FR) = 0.80** *(2018)*
- **Disabling Severity Rate (SR) = 13** *(2018)*
- **Disabling Injuries Frequency Rate (FR) = 0.47** *(2018)*
- **Disabling Severity Rate (SR) = 7** *(2018)*
- **Health program participation rate = 52.7%** *(2018)*

**Achievements**

- **Incident Rate per 1,000 employees < 0.18** *(2019)*
- **Disabling Injuries Frequency Rate (FR) < 0.41** *(2019)*
- **Work-relative Disabling Injuries Frequency Rate < 0.27** *(2019)*
- **Disabling Severity Rate (SR) < 6** *(2019)*
- **Work-relative Disabling Severity Rate < 3** *(2019)*
- **Zero cases of occupational hazards caused by exposure to chemicals** *(2019)*
- **Health program participation rate ≥ 54%** *(2019)*
- **Disabling Injuries Frequency Rate (FR) = 0.80** *(2018)*
- **Disabling Severity Rate (SR) = 13** *(2018)*
- **Disabling Injuries Frequency Rate (FR) = 0.47** *(2018)*
- **Disabling Severity Rate (SR) = 7** *(2018)*
- **Health program participation rate = 52.7%** *(2018)*

**2019 Targets**

- **Incident Rate per 1,000 employees < 0.20**
- **Disabling Injuries Frequency Rate (FR) < 0.45** *(2019)*
- **Disabling Severity Rate (SR) < 6** *(2019)*
- **Disabling Injuries Frequency Rate (FR) = 0.47** *(2019)*
- **Disabling Severity Rate (SR) = 7** *(2019)*
- **Health program participation rate ≥ 52%** *(2019)*
- **Provide coaching and audit factories of suppliers with high risk operation on safety and health standards. Completion rate: 100%** *(2025)*
- **Zero cases of occupational disease caused by exposure to chemicals** *(2025)*
- **Health program participation rate ≥ 53%** *(2025)*

**Note 1** High risk operation suppliers are those that scored an audit score below 70 in the previous year and those in the annual coaching project, such as parts cleaning vendors.

**Note 2** High risk operation contractors are those involved in confined space, hot work, or gas/chemical tubes cutting.

**Note 3** The most common occupational injuries are falls and collisions. These types of injuries take longer time to recover from and result in the increase of working days lost.
Implementing Environmental Safety and Health Management to Ensure a Healthy Workplace

To closely monitor occupational safety and health, TSMC established an organization with divided roles and responsibilities to meet the requests and expectations from stakeholders. In 2018, TSMC continued to promote its safety culture and improve risk management procedures, and also put efforts into strengthening the prevention of occupational diseases, working towards the goal of the safest and healthiest workplace.

**TSMC Safety and Health Organization**

- **Corporate Environmental Protection, Safety, and Health Division**
  - Enact policies, targets, and plans
  - Introduce New Technology and Management Procedures
  - Safety and Health Inspection
  - Company-level Safety and Health Meetings
  - Discussion with Stakeholders About Safety and Health Issues
  - Safety and Health Requests for Suppliers to Build A Sustainable Supply Chain
  - Investigation Council for Occupational Diseases to Implement the Prevention of Occupational Diseases

- **Wellness Center**
  - Responsible for implementing health promotions and management
  - Healthcare
  - Health Promotion
  - Assistance
  - Prevention of Occupational Hazards

- **Site level-Department of Industrial Safety and Environmental Protection**
  - Promote safety and health related activities
  - Occupational Health Risk Inspection
  - Chemical Exposure Evaluation
  - Noise and Non-ionizing Radiation Protection
  - Human Factor Engineering Management
  - Foundry-level Safety and Health Meetings
  - Contractor Management
  - Foundry-level Prevention of Occupational Diseases

- **All Departments**
  - Implement all safety and health related activities

- **Collaborating with Other Enterprises to Reduce Occupational Safety and Health Risks**
  - Government, TSIA, and SEMI Organizations
    - Improve safety, health, and working environment with the collaboration between three parties

- **Suppliers and Contractors**
  - Improve the safety and health of the supply chain with guidance and collaboration
TSMC believes that the first step to establish a healthy workplace is to think from the perspective of a human-oriented safety culture. In addition to integrating internal resources to promote safety culture, the Company manages safety risks according to responsibility of each organization.

Safety and Health Performance
Following the Company’s Safety and Health Policy, TSMC implemented the following actions and used the Safety Performance Index (SPI) to track performances to fulfill safety culture and manage safety risks.

### Advocate Safety Culture

TSMC implemented the following actions and used the Safety Performance Index (SPI) to track performances to fulfill safety culture and manage safety risks.

<table>
<thead>
<tr>
<th>Category</th>
<th>Actions</th>
<th>SPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Inspection</td>
<td>• Periodic legal inspections and checkups on all fabs. A total of 6 safety and health related regulations were changed.</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>• Added a new legal risk inspection form for TSMC (Nanjing) to check on a total of 520 legal documents spanning from the central government to the Nanjing city government</td>
<td>✔️</td>
</tr>
<tr>
<td>Standardized Operating Procedures</td>
<td>• Standardized a total of 54 documents on safety and health management procedures with annual revisions, 158 procedures revised so far.</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>• Changed the occupational safety and health management system from &quot;OHSAS 18001&quot; to &quot;ISO 45001.&quot; All related personnel completed comprehensive safety and health training, with all fabs expected to be certified by 2019</td>
<td>✔️</td>
</tr>
<tr>
<td>Safety and Health Training</td>
<td>• Promoted safety and health training among employees and contractors to meet corresponding regulations and emergency response measures.</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>• Invited specialists to teach health management for more than 160 participators to strengthen the prevention of occupational hazards</td>
<td>✔️</td>
</tr>
<tr>
<td>Hazard Identification</td>
<td>• Identified 5,079 cases of work hazard regarding working environment and conditions</td>
<td>✔️</td>
</tr>
<tr>
<td>Changed Management</td>
<td>• 4,780 cases of management change have successfully been completed with zero related incidents</td>
<td>✔️</td>
</tr>
<tr>
<td>Chemical Management</td>
<td>• Introduced 266 new chemicals with zero related incidents</td>
<td>✔️</td>
</tr>
<tr>
<td>Contractor Management</td>
<td>• 12,443 cases of high risk procedures were completed by contractors with zero related incidents</td>
<td>✔️</td>
</tr>
<tr>
<td>Implementation Inspection</td>
<td>• Internal Audit recommended 1,212 improvement items, and all recommendations were improved on time</td>
<td>✔️</td>
</tr>
<tr>
<td>Emergency Response</td>
<td>• To strengthen emergency responses to earthquakes, emergency response training has been improved to cope with magnitude 6 or higher earthquakes, with composite emergency responses being promoted</td>
<td>✔️</td>
</tr>
<tr>
<td>Occupational Injury Prevention</td>
<td>• Added an employee injury investigation committee and related revisions were adopted by all fabs to lower cases of occupational injuries</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Note 1** Data included TSMC (China) and TSMC (Nanjing).

**Note 2** In response to regulatory differences, TSMC will establish a legal inspection platform covering all facilities in Taiwan (wafer fabs, testing and assembly plants), TSMC (China) and TSMC (Nanjing).

**Note 3** 2018 training achievements (Training scope and statistical logic redefined in 2018).
Safety Performance Indicators

TSMC classifies SPI into four categories, including leading and lagging indicators. Leading indicators encourage employees to participate in safety and health activities, while lagging indicators represent errors and false alarms. In 2018, the amount of blue light incidents decreased from 94% to 89.4% since false alarm incidents increased from 6 to 10. Among these false alarm incidents, 6 incidents were triggered by fire alarms, 2 from gas alarms, and the remaining 2 from employee injuries. After analyzing the causes of these false alarms, updated safety and health focuses are as follows:

- **Reduced fire false alarm incidents:** One case was caused by a short circuit due to a plug constantly being plugged and unplugged. The other five were all due to the malfunction of cast resin transformers, so we formed an expert team to address the issue.
- **Reduced gas alarm incidents:** Design and textures of equipment now have to meet specific safety standards and these standards have to be included in TSMC's procurement standards.
- **Reduced employee injuries:** Strengthened equipment examination and strictly adhered to standard operating procedures for maintenance.
- **Included incidents to target management:** With hopes to reach the target of lowering the incident rate per 1,000 employees to below 0.2%.

Safety Performance Indicators (SPI) Chart

<table>
<thead>
<tr>
<th>Year</th>
<th>Blue</th>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>95.1</td>
<td>3.5</td>
<td>1.4</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>92.5</td>
<td>4.1</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>91.1</td>
<td>4.8</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>94</td>
<td>3.0</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>89.4</td>
<td>5.6</td>
<td>0.4</td>
<td>0</td>
</tr>
</tbody>
</table>

SPI Index

<table>
<thead>
<tr>
<th>Active Indicators</th>
<th>Passive Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Changed Safety Management within Foundries</td>
<td>Numbers of False Alarm Incident</td>
</tr>
<tr>
<td>Target Number of Safety and Health Implementing Projects</td>
<td>Number of Self-evaluated Safety and Health Errors</td>
</tr>
<tr>
<td>Completion Rate of Safety and Health Trainings</td>
<td>Completion Rate of Legal Inspection Implementation</td>
</tr>
<tr>
<td>Number of Safety and Health Promotion Activities</td>
<td>Number of Errors Found During Safety and Health Inspections</td>
</tr>
<tr>
<td>Number of Work-relative Occupational Injury</td>
<td></td>
</tr>
</tbody>
</table>

SSPI Diagram

<table>
<thead>
<tr>
<th>SPI</th>
<th>Performance</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI ≥ 95</td>
<td>Excellent</td>
<td>Blue</td>
</tr>
<tr>
<td>85 ≤ SPI &lt; 95</td>
<td>Good</td>
<td>Green</td>
</tr>
<tr>
<td>70 ≤ SPI &lt; 85</td>
<td>Warning</td>
<td>Yellow</td>
</tr>
<tr>
<td>SPI &lt; 70</td>
<td>Alarm</td>
<td>Red</td>
</tr>
</tbody>
</table>
Potential Risks of Cast Resin Transformers and TSMC's Countermeasures

Cast resin transformers are commonly used in power systems in TSMC. When there is a malfunction caused by equipment losing power, it may even result in a pause in production. In 2018, multiple fire alarms were set off by cast resin transformers due to their inherent risks. To solve this problem, TSMC experts in power systems collaborated with the National Taiwan University of Science and Technology and the manufacturers of the cast resin transformers to examine different scenarios the transformers were malfunctioning, and implemented improvement actions to create a win-win situation between the manufacturers and customers.

Improvement Plans for the Malfunction of Cast Resin Transformers

- Identify the maintenance period for each electrical system and schedule each maintenance accordingly.
- Collaborate with experts from NTUST and create tools without blind spots. These tools perform thorough examination of panelboards.
- Optimize the assembling method of cast resin transformers. Use plastic tools that are less destructive. Change paints and filters. Request that workers pass training and raise the awareness of quality construction.

Inherent Risks of Cast Resin Transformers

- Malfunctioning Risk of Components
- No Early Warning Systems and Production Interruption Process
- Defects from Production Process and Increased Failure Rate

TSMC Improvements

- Standardized Regular Maintenance
- Development of New Technology with No Blind Spots
- Collaboration with Manufacturers

Analysis of Past Incidents

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Incidents</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Number of Incidents / Number of People</td>
<td>0.074</td>
<td>0.133</td>
<td>0.170</td>
<td>0.123</td>
<td>0.211</td>
</tr>
</tbody>
</table>

Note: Data were collected from all facilities in Taiwan (wafer fabs, testing and assembly plants), WaferTech, TSMC (China) and TSMC (Nanjing).
Statistical Analysis of Disabling Injuries

The statistics are calculated according to disabling injury indicators from the Ministry of Labor and GRI Standard and shown in Frequency Rate (FR) and Severity Rate (SR). The data excludes traffic accidents outside the fabs. In 2018, TSMC had a total of 83 occupational hazard incidents that resulted in a loss of 1,244 working days.

### Total Working Hours, Injury Cases, and Working Days Lost

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>52,379,580</td>
<td>34,144,666</td>
<td>86,524,246</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>28</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>367</td>
<td>367</td>
<td>734</td>
</tr>
</tbody>
</table>

Note: Data were collected from all facilities in Taiwan (wafer fabs, testing and assembly plants), WaferTech, TSMC (China), TSMC (Nanjing) and VisEra.

### FR by Gender

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR of Male</td>
<td>0.82</td>
<td>0.92</td>
<td>0.76</td>
</tr>
<tr>
<td>FR of Female</td>
<td>0.4</td>
<td>0.3</td>
<td>1.09</td>
</tr>
</tbody>
</table>

Note: Data were collected from all facilities in Taiwan (wafer fabs, testing and assembly plants), WaferTech, TSMC (China), TSMC (Nanjing) and VisEra.

### SR by Gender

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR of Male</td>
<td>7</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>SR of Female</td>
<td>7</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: Data were collected from all facilities in Taiwan (wafer fabs, testing and assembly plants), WaferTech, TSMC (China), TSMC (Nanjing) and VisEra.
Last year, we did not meet the annual target for both FR and SR due to an increase in employee injury cases. Female employees had a higher FR, while male employees had a higher SR. Most injuries were job-related, including falling down, fractured bones, and sprained ankles due to collision. These injuries take longer time to recover, resulting in the increase in loss of working days. Given the increase of both FR and SR compared to the previous year, the SPI is expected to be revised in 2019 and TSMC encourages colleagues and employees to come up with new injury prevention actions.

After analyzing the FR and SR between 2016 and 2018, excluding employees who got broken bones from training for the Sports Day in 2017, TSMC found that the most common occupational injuries were caused by a fall or collision. Among these injuries, about 10% were caused by a slippery floor and poor lighting, which was comprehensively addressed later on. The other 90% was a result of personal reasons. In 2019, TSMC will improve safety in these areas, raising employees' safety awareness, and conducting regular reviews in the Safety and Health Committee meetings.

### Causes of Occupational FR and SR in 2018

#### Causes of FR

- Collisions: 20%
- Others: 12%
- Human Errors: 9%
- Caught or Stuck: 9%
- Cuts / Scratches: 3%
- Sport Injury: 3%

#### Causes of SR

- Collisions: 21%
- Others: 14%
- Human Errors: 7%
- Caught or Stuck: 4%
- Cuts / Scratches: 3%
- Sport Injury: 1%

#### Disabling Frequency Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit:%</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td></td>
<td>35</td>
<td>43</td>
<td>44</td>
</tr>
<tr>
<td>SR</td>
<td></td>
<td>40</td>
<td>18</td>
<td>49</td>
</tr>
</tbody>
</table>

#### Rate of Working Days Lost from Occupational Induced Injuries

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit:%</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td></td>
<td>14</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>SR</td>
<td></td>
<td>5</td>
<td>24</td>
<td>7</td>
</tr>
</tbody>
</table>

### Improvement Actions to Prevent Falling Down and Collision

- **Posters to Raise Colleagues' Awareness**
  - Do not talk on the phone or use the phone when taking the stairs
  - Do not run in the office
  - Follow instructions of carts
  - Turn on the light and slow down in the parking lot

- **Create a Safer Environment and Avoid Falling Down or Collisions**
  - Remove barriers on circulation of movement
  - Improve the environment with better lighting
  - Stabilize and organize cables to avoid tripping over them
  - Fixed cart storage areas

- **Management**
  - Analyze and Discuss Injury Cases in Safety and Health Council
    - Calculate occupational injury cases every month and promote safety in every foundry
    - Inspect on road-smoothing project
    - Everyone is a safety inspector
    - Safety reports are encouraged
Occupational hazards and personal health problems result in a drop in productivity, and the impact to a company cannot be overlooked. Therefore, optimal health management should include health risk identification and corresponding measures to prevent occupational diseases and promote personal, physical, and mental health management.

Health Risk Identification in Preventing Occupational Diseases

TSMC is committed to making a breakthrough in traditional occupational health policies and building a safe working environment. To promote employee health and better respond to occupational hazards, TSMC established a ‘Health Management Program for Employees’ in 2017, which is supervised by senior vice presidents of Fab Operation and Information Technology, Materials Management & Risk Mgt. The participating members include fab managers, the division of industrial safety and environmental protection, legal and human resources department, and employee healthcare department. Jobs are divided into several categories according to levels of risk. These categories represent the five main causes of occupational diseases, including chemical, physical, ergo, biological, and social / psychological factors. These factors are in the scope of health management plans for employees. According to the statistics from the Occupational Safety and Health Administration of the Ministry of Labor, ROC, TSMC prioritizes the order for occupational disease prevention.

For further information, please refer to the official website of TSMC: TSMC Goes beyond Regulatory Requirements to Protect Employee Health.
Actions and Achievements of Preventing Occupational Diseases

**Ergo**
- Work with experts on automatic ergo identification system
  - New Measures Since 2018
  - Constant Measures
  - Identify the human risk differences between manual carrying and equipment maintenance. Introduce automatic risk identification systems to the manufacturing section.
  - Use automatic human error identification system for safer high-risk operations.
  - Refer to the results of health examination, care for off work employees with muscle pain, and arrange doctor appointments for them.

**Chemical**
- Construct new health risk evaluation and control the use of chemicals
  - New Measures Since 2018
  - Constant Measures
  - Work with NCKU on the new health risk evaluation for operators in FAB.
  - Make sure the chemical safety information is correct.
  - Monitor operations with first-tier substances that may possibly lead to cancer, deformities, and germline mutation with medical doctors and ask for suggestions and improvement.
  - Control the use of hazardous substances.

**Social / Psychological**
- Provide counseling services to employees who feel high levels of pressure
  - New Measures Since 2018
  - Constant Measures
  - Hand out counseling service cards to employees, reminding them that they are entitled to 5 free hours of counseling services each year.
  - Provide assistance to meet employees’ needs.
  - Provide counseling services.
  - Provide lectures about psychological health.

**Biological**
- Follow CDC Announcements Instantly
  - New Measures Since 2018
  - Constant Measures
  - Develop a guideline for the prevention and response to notifiable contagious diseases.
  - Give employees health education information before flu and dengue fever seasons.
  - Provide epidemic prevention packages and health education information to employees who are going to infected areas.
  - Establish response procedures for mass food poisoning incidents and food safety management.
  - Archive the amount of ionizing radiation and track the radiation protection of equipment over the years.
  - Minimize the noises of FAB.
  - Manufacturing equipment examines the amount of non-ionizing radiation every 6 months.
  - Establish a mechanism that controls the source of radiation.

**Physical**
- Increase Identification of Physical Exposure in the Environment
  - New Measures Since 2018
  - Constant Measures
  - Improved operations with high human risks, such as overweight wafer cassettes. (Please refer to the example below.) 100% employees were satisfied with the results.
  - In 2018, no new first-tier substance was used in technology development.
  - Safety checklists were 100% correct.

- Took employees’ feedback into consideration and solved problems for employees. 95% of employees were satisfied.

- To prevent further spread, 423 employees have been well managed.

- Minimized the noises of FAB.
- No case of radiation exposure.

For further information, please refer to the official website of TSMC: TSMC Introduces Ergonomics Engineering E-System to Build a Safe Workplace.
Assisting Employees with Health Management, Including Healthcare and Health Promotion

To proactively prevent occupational hazards caused by chemical exposure, TSMC collaborates with occupational medicine and toxicology specialists from the Taipei Veterans General Hospital. In addition to implementing hazardous health examinations based on hazardous health management regulations, TSMC created a health database of operators who came into contact with hazardous substances in 2018. Data such as physiological indicators, working procedures, and working environment are included in the database. If the biological indicators of employees show signs of increasing year by year, TSMC will arrange a doctor appointment for employees and inspect the working environment to check if there is a risk of exposure.

### Innovative Actions

To prevent further spread, 423 employees have been well managed.

8,846 employees have been screened for colorectal or cervical cancer examinations and breast ultrasounds.

Services, including on-site medical and dental clinics, are provided for employees, their families, businesses, and visitors. 20,116 people have been served.

To prevent further spread, 423 employees have been well managed.

### 2018 Health Promotion Activities

- **Weight Loss Challenge**: 1,000 people participated in the following activities.
  - To follow Occupational Safety and Health Act, 3,926 employees completed corresponding health examination, which was a 100% completion rate.
  - Invited masseurs to provide massage services in the workplace.
  - Assisted 809 pregnant or postpartum employees with working environment evaluations and gave away 1,777 welfare brochures and baby carriers to new parents.
  - Provided lectures on health examinations, dealing with stress, and workplace communication.

- **Health Lottery**: 3,517
  - Middle or high health risks have received medical assistance and working hour management.
  - Invited masseurs to provide massage services in the workplace.

- **Physical and Mental Health Lectures**: 1,890
  - Have been monitored
  - Middle or high levels of abnormalities
  - Provided lectures on health examinations, dealing with stress, and workplace communication.

- **Massage Service**: 6,728 users
  - To follow Occupational Safety and Health Act.

- **Health Promotion**: 13,676 people participated in the following activities.
  - A total of 2,888 kg
  - Compared to 2017

### 2018 Special Health Examination Management

- **Maternal Health Management**: 809
  - To follow Occupational Safety and Health Act.

- **Prevention of Occupational Cerebrovascular, Cardiovascular, and Heart Diseases**: 325
  - Assisted 809 pregnant or postpartum employees with working environment evaluations and gave away 1,777 welfare brochures and baby carriers to new parents.

- **Clinic Services**: 20,116
  - Services, including on-site medical and dental clinics, are provided for employees, their families, businesses, and visitors. 20,116 people have been served.

- **Epidemic Prevention**: 423
  - To prevent further spread, 423 employees have been well managed.

### General Healthcare

- **43,802**: Number of people
  - Middle or high levels of abnormalities
  - Have been monitored

### Special Health Examination Management

- **3,926**: Number of people
  - To follow Occupational Safety and Health Act.

### Cancer Screening

- **8,846**: Number of people
  - Have been monitored

### Maternal Health Management

- **809**: Number of people
  - To follow Occupational Safety and Health Act.

### Clinic Services

- **20,116**: Number of people
  - Services, including on-site medical and dental clinics, are provided for employees, their families, businesses, and visitors. 20,116 people have been served.

### Epidemic Prevention

- **423**: Number of people
  - To prevent further spread, 423 employees have been well managed.

Note: Data of special health examination management were collected from all facilities in Taiwan, TSMC (China), TSMC (Nanjing), VisEra, and WaferTech; Data of other categories were collected from part of the subsidiaries only.

For further information, please refer to the official website of TSMC: TSMC Promotes Employees’ Well-being to Create a Friendly Workplace.
As the Company grows, TSMC has greater influence on industry and society. It is TSMC’s obligation to build a safe working environment along with its suppliers and contractors. Therefore, TSMC partners with other enterprises to proactively learn from one another, shares experiences, and provides training and guidance to reduce safety and health risks in the supply chain.

Collaborating with Other Enterprises to Reduce Occupational Safety and Health Risks

TSMC shares experiences in occupational safety and health risk management with the Taiwan Semiconductor Industry Association (TSIA). Furthermore, on behalf of TSIA, TSMC participates in the annual Joint Steering Committee, a working group of World Semiconductor Council, and shares experiences in occupational risk management.

Internal-External Alliance

- Establish hazardous substance management and help amend SEMI standards
- Participate in WSC to find substitutes for hazardous substances
- On behalf of CNFI, give the government suggestions, such as full disclosure of hazardous substances
- Contact OSHA to clarify the concerns of examination standards of operational environment
- Work with OSHA and ask for full disclosure of hazardous chemicals that may lead to cancer, deformities, and germline mutations
- Work with OSHA to strengthen the safety standards for robot design. Engage in on-field visits and safety examination on these robots
- Participate in forums held by the government, such as occupational health risk assessment
- Take part in industry seminars and share experiences in chemical management
- Be invited to APOSHO and universities to share health risk assessment, safety and health management in supply chain, human risk exposure, and chemical management
- Hold supply chain management courses to teach safety and occupational health management
Enhancing Hazard Disclosure of Contractors and Helping Employees Identify Health Risks

Currently, about 75,000 contractors have TSMC working permits. Based on different levels of risk exposure, operating frequency, and operating modes, about 3% of all contractors are defined as high-risk contractors. Since these contractors are on-site contractors, they are required to meet the standards of safety and health training and examination. They are required to take training courses, know how to use personal protective equipment, and attend emergency response drills. In 2019, contractors are required to report all anomalies of workplace-related health examinations to TSMC. In response, TSMC will send occupational physicians to carry out onsite inspections and make sure that all onsite staff’s health is secured.

In 2018, TSMC strengthened contractors’ awareness of occupational hazard prevention. Several topics were added into the training materials of safety and health, including risk identification methods, prevention of hazardous substances, inspection on the working environment, and personal protective equipment corresponding to each operation. In addition, TSMC put warning signs on components that might be used by contractors and standardized packaging methods to avoid direct contact with hazardous remains.

In 2017, TSMC started to analyze the FR and SR of contractors. In 2018, there was a loss of 8 working days, which was mainly due to a finger injury in the process of carrying equipment. After the accident, TSMC strengthened contractors’ training and promotion of industrial safety. Moreover, TSMC requested that contractors and vendors need to follow correct operating procedures.

Contractor Training

<table>
<thead>
<tr>
<th>Training Courses</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Mandatory Courses</th>
<th>Overseas Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Health Training</td>
<td>16,241</td>
<td>21,370</td>
<td>15,708</td>
<td>21,749</td>
<td>Safety and Health Training</td>
<td>Not Included</td>
</tr>
<tr>
<td>Personal Prevention Equipment Training for Resident Contractors with Exposure to Chemicals</td>
<td>1,998</td>
<td>2,608</td>
<td>1,891</td>
<td>2,011</td>
<td>Safety and Health Training</td>
<td>Not Included</td>
</tr>
<tr>
<td>Annual Emergency Response Drill for Resident Contractors with Exposure to Chemicals</td>
<td>124</td>
<td>205</td>
<td>778</td>
<td>1,344</td>
<td>Safety and Health Training</td>
<td>Not Included</td>
</tr>
</tbody>
</table>

Note: Training scope and statistical logic were redefined in 2018 (Data were collected from all facilities in Taiwan, including wafer fabs, testing and assembly plants).

Risk Identification of Contractor Health Factors

<table>
<thead>
<tr>
<th>Health Risk Exposure</th>
<th>Operation Frequency</th>
<th>Low Frequency</th>
<th>High Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk</td>
<td>Low Frequency</td>
<td>Low Risk</td>
<td>High Risk</td>
</tr>
<tr>
<td>High Risk</td>
<td>High Frequency</td>
<td>High Risk</td>
<td>Low Risk</td>
</tr>
</tbody>
</table>

Statistics of Frequency Rate (FR) and Severity Rate of Contractors

<table>
<thead>
<tr>
<th>Category \ Year</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>0.03%</td>
<td>0.03%</td>
</tr>
<tr>
<td>SR</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: Data were collected from all facilities in Taiwan (wafer fabs, testing and assembly plants).
Sustainable Development in the Supply Chain

In 2018, TSMC established the “Guidebook on Environmental Protection, Safety, and Health for Suppliers”, which covers TSMC’s safety and health standards for suppliers’ reference. In 2015, TSMC created an onsite inspection form to monitor environmental protection, safety, health, and damage prevention in the supply chain. The form has been revised annually in response to regulatory changes. Furthermore, in response to suppliers’ requests, TSMC holds a “Training Workshop on Safety, Health, and Environmental Protection” in the beginning of each year. In the workshop, inspection forms are given to suppliers for their self-evaluation. In the middle of each year, TSMC conducts inspections and guidance on these suppliers to make sure that safety and health procedures meet regulatory standards. With bilateral communication, TSMC gives suppliers the needed guidance on safety and health. In 2018, three workshops were held covering topics including energy reservation, water reservation, occupational safety and health, fire safety, waste reduction, and emergency response observation. In 2019, TSMC will continue to make follow-up reports on the improvements in these fields.

Emergency Response Observation

Strengthening Safety Management of Delivery Contracted Operation

In the past, basic contracting operations were to outsource industrial safety management to other contractors. Due to an ever expanding business, and an accident occurred in the end of 2018, TSMC now demands that these contractors fulfill self-management. In 2019, TSMC will enact new measures to maintain the current actions of industrial safety and build a safe working environment with its contractors.

Actions of Industrial Safety

1. Establish and certify occupational safety and health management systems
2. Ensure construction quality and make sure that operators are professional and well-trained
3. Implement contractor evaluations and interview executive managers to maintain occupational safety:
   (a) Establish and certify occupational safety and health management systems
   (b) Ensure construction quality and make sure that operators are professional and well-trained
   (c) Inspect construction sites, improvement on errors, and preventive measures